

PFAS Regulation in Singapore and its Implications for International Traders

Per- and polyfluoroalkyl substances ("PFAS") are a family of nearly 15,000 synthetic chemicals used in everyday products since the 1940s, such as non-stick cookware, food packaging, and waterproof/stain resistant fabrics, personal care products, and firefighting foam. They are extremely resistant to breaking down, travel long distances, and build up in the environment, including groundwater and soil, and in living organisms, earning their nickname 'forever chemicals'. The build-up of PFAS in the human body has in some cases been linked to severe health issues, including cancer and reproductive harm.

In National Environmental Agency ("NEA") Circular NEA/HS/6.6, Singapore announced the prohibition of the import and use of fire-fighting foams containing Perfluorooctanoic acid ("PFOA") and Perfluorooctane sulfonic acid ("PFOS"), including their salts and related compounds with effect from 1 January 2026, marking yet another major step in the phase-out of PFAS in Singapore. Globally, governments are regulating PFAS by requiring extensive corporate reporting, and mandating limits and phase-outs of specific PFAS and are even working towards the phase-out of all PFAS, allowing their use only where they are proven to be irreplaceable and essential to society.

For businesses involved in manufacturing or moving electronics, textiles, packaging, automotive replacement parts, fire-fighting foam, or specialised chemical formulations in or through Singapore, this update outlines the current legal landscape and offers an actionable blueprint to navigate the landscape.

Stockholm Convention

Singapore is a party to the *Stockholm Convention on Persistent Organic Pollutants 2001* ("Stockholm Convention. Under the Convention, Parties must, with effect from December 2020, subject to limited exceptions, take measures to *eliminate* the production and use of PFOA, its salts and PFOA-related compounds (collectively "PFOA substances").

Specific exemptions are permitted for the production and use of PFOA substances. While the production of firefighting foam containing is not permitted, the production of other articles containing PFOA substances, and the use of PFOA substances including in firefighting foam, may be allowed for Parties that have notified the Secretariat of the Convention of their intention to produce and/or use them in accordance with the Convention. The Parties currently exercising specific exemptions for the production and/or use of PFOA substances for specified purposes are Argentina, the EU, Japan, Norway, South Korea, Switzerland, and Vietnam. As the Convention's "Register of Specific Exemptions: Perfluorooctanoic acid (PFOA), its salts and PFOA-related compounds" does not list Singapore as having registered any specific exemptions for the production or use of PFOA, Singapore ostensibly cannot exercise any such specific exemption.

With effect from December 2020, PFOS, its salts and perfluorooctane sulfonyl fluoride ("PFOSF") (collectively "PFOS substances") may only be produced and/or used for insect baits with sulfluramid as an active ingredient for the purpose of controlling leaf-cutting ants from *Atta* spp. and *Acromyrmex* spp. for agricultural use ("PFOS acceptable purpose") or as an intermediate in the production of chemicals for this purpose. There are no specific exemptions available for PFOS substances.

The production and use of perfluorohexane sulfonic acid ("PFHxS"), its salts and PFHxS-related compounds (collectively "PFHxS substances") is prohibited with effect from November 2023. There are no specific exemptions.

After their respective effective dates to cease production and use, the import of PFOA substances, PFHxS substances, and PFOS substances by a Party is not permitted except for the purpose of environmentally sound disposal or for a use or purpose which is permitted for a Party. This effectively means that under the Convention, these substances may only be imported into Singapore for environmentally sound disposal. Conversely, these substances may be exported from Singapore only for the purpose of environmentally sound disposal; to a Party which is permitted to use that chemical; or to a State not Party to the Convention which meets the conditions prescribed in the Convention.

Parties are also required to develop strategies for identifying their stockpiles of these listed PFAS and their products and articles in use and their wastes, manage these stockpiles in an environmentally sound manner, and handle these wastes and dispose them in an environmentally sound manner.

In 2025, pursuant to the Conference of the Parties of the Stockholm Convention Decision SC-12/12 to list long-chain PFCAs, their salts and related compounds ("LC-PFCAs substances") in the Convention, the production and use of LC-PFCAs substances will also be eliminated with effect from 16 December 2026 except for Parties that have notified the Secretariat of their intention to register for specific exemptions. These specific exemptions are limited to the following applications, until the end of the service life of articles being repaired or until 2041, whichever comes earlier:

- (a) Semiconductors designed for replacement parts for combustion-engine-powered vessels;
- (b) Replacement parts for motor vehicles that have ceased mass production, covering all land-based vehicles, such as cars, motorcycles, agricultural and construction vehicles, and industrial trucks. Applications include semiconductors, coatings, cables, electronics, engines and under-hood applications, modules, hydraulic system components and relay assemblies.

Basel Convention

While not explicitly named under the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal 1989* ("Basel Convention"), to which Singapore is also a Party, wastes containing PFAS may nevertheless come within its scope of the Convention by virtue of coming within the description of various categories of wastes under Annexes 1 and 2 (e.g., wastes from the production, formulation and use of biocides and phytopharmaceuticals; wastes from production, formulation and use of photographic chemicals and processing materials; wastes from surface treatment of metals and plastics; wastes collected from households; and plastic waste), Annex 8 (e.g., wastes from the production, formulation and use of biocides and phytopharmaceuticals; waste oils/water, hydrocarbons/water mixtures, emulsions) of the Convention, or by being defined, or considered to be, hazardous wastes by the domestic legislation of the Party of export, import or transit. Hazardous and other wastes that come within the scope of the Basel Convention are subject to its provisions on the minimisation of generation of hazardous waste and other waste; and environmentally sound and efficient management, and notification and prior informed consent of the import Parties and transit States for the transboundary movement of such wastes.

Domestic Legislation

Under the *Environmental Protection and Management Act 1999*, a licence from the Director-General of Environmental Protection ("Director-General") is required for the import, manufacture, possess for sale, sell or offer for sale of any hazardous substance, including PFHxS, PFOA, and PFOS. Every person storing, using or otherwise dealing with any hazardous substance must do so in such a manner as not to threaten the health or safety of any person, or to cause pollution of the environment release. When read with Singapore's obligations under the Stockholm Convention, and in view of NEA Circular NEA/HS/6.6, it appears that no licences can be issued for the import, manufacture, or use of PFHxS and PFOA except possibly for the purpose of environmentally sound disposal in the case of their import, in which case the requirements of the Basel Convention as implemented in Singapore under the *Hazardous Waste (Control of Export, Import and Transit) Act 1997* may apply. There is also no indication that licences have or will be given for the import, manufacture, or use of PFOS substances for the PFOS acceptable purpose.

Following the adoption of the Stockholm Convention Conference of the Parties decision SC-12/12, the NEA announced in its Circular NEA/HS/6.6/SC02 that the manufacture, import, and export of LC-PFCAs, as well as products containing LC-PFCAs in Singapore will not be allowed with effect from 16 December 2026, but companies may continue to deplete existing stocks of LC-PFCAs and/or their products that were imported before this date. It is reviewing the relevance of the specific exemptions for certain specific uses to local industry, as allowed for under the Stockholm Convention. It's important to keep in mind that while the circular states that companies may continue to deplete existing stocks of the chemicals and/or their products, this exemption is still subject to regulation under the existing domestic regulation and may also depend on Singapore registering for specific exemptions in accordance with the Stockholm Convention.

The import, export, and transit of PFAS waste that constitute hazardous or other waste under the Basel Convention is regulated under the *Hazardous Waste (Control of Export, Import and Transit) Act 1997* ("HWA"). Under the Act, a permit from the Director-General is required for the import, export, or transit of hazardous or other waste.

Where such waste is also toxic industrial waste under the *Environmental Public Health Act 1987* ("EPHA"), a toxic industrial waste collector's licence is required for the receipt or acceptance of any toxic industrial waste for storage, reprocessing, usage, treatment or disposal. The waste must also not be disposed in or at any place except in or at a public disposal facility or a disposal facility licensed by the Director-General, but only after written permission has been obtained by the Director-General to do so.

Mandatory Chemical Reporting Framework

In addition to the above PFAS-related regulation, under NEA circular NEA/HS/6.6/CRF01, with effect from 1 January 2026, existing licence and permit holders for hazardous substances must carry out chemical reporting during their licence and/or permit renewals if they manufacture in Singapore and/or import as the first point of entry in Singapore, in excess of one metric tonne per year, currently unregulated chemicals, including PFAS, as pure substances, provided these substances meet any one of the following criteria:

- (i) Category 1 or 2 acute toxicity for any exposure route under the Globally Harmonised System of Classification and Labelling of Chemicals ("GHS classification");
- (ii) Category 1 aquatic toxicity (acute) under the GHS classification;
- (iii) Category 1A, 1B or 2 for Carcinogenic, Mutagenic or Reproductive toxicity under the GHS classification;

- (iv) Persistent in the environment (i.e., half-life of more than 6 months in air, water, soil, or sediment);
or
- (v) Bioaccumulative in the environment (i.e., Bioaccumulation Factor or Bioconcentration Factor exceeding 5000).

For the substances meeting the reporting criteria, hazardous substances licence or permit holders must submit the following information during their licence and/or permit renewal period:

- (a) Chemical identity;
- (b) Safety Data Sheet ("SDS");
- (c) Maximum annual production and / or import quantity; and
- (d) Intended / identified use(s) of the substance/component.

Agency Monitoring

The Public Utilities Board has also been monitoring PFAS in Singapore's drinking water since 2016. In this regard, it should be borne in mind that it is an offence under the EPMA for a person to discharge, or cause or permit to be discharged a toxic or hazardous substance into any inland water in Singapore, and apart from any punishment for the offence, the person may be required to remove and clean up such toxic substance or hazardous substance or polluting matters within a time specified by the Director-General.

The Singapore Food Agency ("SFA") has indicated that the World Health Organisation ("WHO") is developing guidelines for PFAS in drinking water and will review whether to develop local regulatory limits for PFAS after the WHO's finalised guidelines are published. The SFA is also monitoring international developments on PFAS standards and guidelines and will review its food safety measures where necessary.

Recommendations

Businesses, particularly those in high-risk sectors such as textiles, electronics, semiconductors, automotive components, and food packaging, should consider mandating a comprehensive forensic supply chain mapping, auditing all raw materials, chemical intermediates, and finished articles for the presence of PFAS. Consideration should be given to whether to mandate "PFAS-free" certification, or at a minimum, targeted "Regulated PFAS-free" certification from direct suppliers (and their sub-suppliers) declaring the absence of PFAS prohibited or restricted in Singapore and any other markets for which such substances or articles are intended to be exported to or used.

Businesses should also consider whether it is appropriate to restructure procurement contracts to clearly allocate compliance responsibility, including:

- (a) the inclusion of representations and warranties that all goods, components, raw materials, or chemical intermediates supplied strictly comply with Singapore's EPMA and all NEA circulars, and other relevant foreign legislation;
- (b) robust indemnification provisions for all associated costs, including
 - a. statutory penalties and legal fees,
 - b. costs related to the environmentally sound storage, transport, and disposal of the contaminated waste, and losses stemming from operational delays or business interruption, if a shipment is stranded due to the presence of unauthorised restricted PFAS; and
- (c) the right to reject any delivery and terminate the agreement if the required PFAS verifications are not provided or if independent testing detects restricted PFAS.

Conclusion

Alongside voluntary market exits by major international chemical manufacturers seeking to limit mounting litigation and remediation liabilities, the global regulatory trajectory is clear – a shift from reactive regulation towards a systemic precautionary framework for the total or near-total phase-out of the entire class of PFAS with time-limited exemptions where a use is genuinely “essential” for health, safety, or a critical societal function and where no suitable alternative exists.

Relying on temporary stock depletion exemptions or navigating complex permit frameworks may not be a viable long-term business strategy. It is legally and commercially prudent for businesses to actively initiate a phase-out of all identified PFAS within their supply chains and transition to verified, non-persistent organic pollutant alternatives, wherever feasible, particularly for non-essential uses. Taking proactive steps now is the only definitive way to avoid or mitigate legal exposure.

Should you have any queries on this update or generally, please feel free to contact the undersigned.



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