

POLICY BRIEF

Plastic Pollution and Trade Across the Life Cycle of Plastics: Options for Amending the Harmonized System to Improve Transparency

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Key Insights

- In March 2022, governments agreed at the United Nations Environment Assembly to launch negotiations to forge an international instrument on plastic pollution by the end of 2024.
- To tackle the plastic pollution crisis, a growing number of countries are implementing policies to better regulate international trade in plastic waste and an array of plastic products and inputs.
- With trade across the life cycle of plastics worth over \$1 trillion, trade plays a key role in the global plastics economy and trade policies are important in shaping international plastics trade.
- A critical missing piece for effective, evidence-based policymaking to tackle plastic pollution is reliable and disaggregated data on cross-border trade flows across the life cycle of plastics.
- As the collection of trade data is underpinned by the World Customs Organization's (WCO) Harmonized System (HS), this international nomenclature is an important starting point for a more granular picture of trade flows across the life cycle of plastics.
- This policy brief identifies gaps and challenges in the HS that are relevant to efforts to tackle plastic pollution. It then puts forward options for amending the HS that would facilitate monitoring and regulation of trade flows across the life cycle of plastics.
- Drawing from the range of potential HS amendment options identified, the paper recommends a subset of options that could feasibly be pursued in the current 2022–2027 HS amendment cycle at the WCO.
- The options also serve to inform international cooperation on how trade policies could support efforts to tackle plastic pollution, including through negotiations for a new international instrument on plastic pollution, implementation of the Basel Convention “plastic waste amendments”, and the Informal Dialogue on Plastics Pollution and Environmentally Sustainable Plastics Trade (IDP) at the World Trade Organization.

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1. Introduction

In a tremendous step forward for strengthened international environmental cooperation, governments agreed at the United Nations Environment Assembly (UNEA) in March 2022 to launch negotiations for a new international instrument on plastic pollution to be completed by the end of 2024 (UNEP, 2022; Bauer & Deere Birkbeck, 2022). Effective, coherent, and evidence-based international cooperation on plastic pollution requires reliable data.

A critical missing piece is granular information on the composition of international trade flows across the life cycle of plastics, estimated to have reached a value of at least \$1 trillion in 2019 (Barrowclough & Deere Birkbeck, 2022).

As the collection of trade data is underpinned by the classification of products provided by the World Customs Organization's (WCO) Harmonized Commodity Description and Coding System, generally referred to as the Harmonized System (HS), this international nomenclature is an important starting point for governments and stakeholders wishing to have a more granular picture of trade flows across the life cycle of plastics.

The HS Convention has 160 contracting parties and the HS is used by more than 200 countries to collect official international trade data, meaning that it plays a key role in regards to the collection of statistics on international trade relevant to plastics

and plastic pollution. The HS is also used by customs authorities for the application of border controls and customs duties and by trade officials in international trade negotiations (WCO, 2020 n.d.). It also plays a key role for governments seeking to implement environmental policies that require action at the border. The HS classification of products is updated periodically, generally every 5–6 years. The next cycle of HS amendments is currently under discussion, with entry into force expected in January 2027 (WCO, 2020b).

As governments seek to bolster cooperation on plastic pollution, including its trade dimensions, the need to enhance transparency of international trade flows in plastic inputs, products, and waste has been recognized in discussions related to a new international instrument on plastic pollution, the implementation of the Basel Convention "plastic waste amendments", and the Informal Dialogue on Plastics Pollution and Environmentally Sustainable Plastics Trade (IDP) at the World Trade Organization (WTO).

Recent research by the United Nations Conference on Trade and Development (UNCTAD) and the Geneva Graduate Institute has generated a preliminary database of trade across the life cycle of plastics (Barrowclough et al., 2020). This work identifies a number of shortfalls in existing HS classifications that limit understanding of trade flows relevant to efforts to tackle plastic pollution.

Drawing on that work, this policy brief provides a synopsis of gaps and challenges in the HS that are relevant to efforts to tackle plastic pollution. It then identifies options for amending the HS that would facilitate monitoring and regulation of trade flows across the life cycle of plastics in ways that support governments and stakeholders working to reduce

plastic pollution. The range of options considered cover the full life cycle of plastics, from products used as feedstocks to manufactured products and plastic waste. To spur discussion, this paper also presents a set of recommendations that could be feasible to pursue in the current 2027 cycle of HS amendments at the WCO.¹

2. The Life Cycle of Plastics, Environment, and Sustainable Development

2.1 Understanding the Life Cycle of Plastics

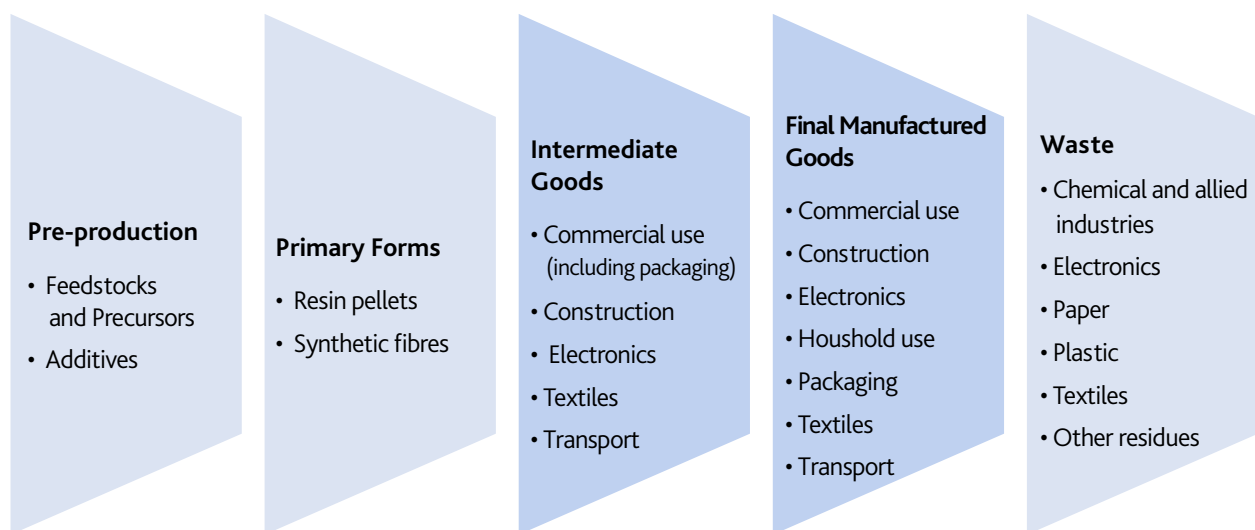
Plastics, either in rigid or flexible form, are used in almost all economic sectors and in countless products including, ranging from packaging, construction materials and cars to clothing, office equipment, and electronics. Plastics are also present in an array of products not commonly recognized as plastic, such as paints, protective coatings and linings, adhesives and glues, and sealants and insulation.

The life cycle of most plastics begins with the extraction of oil and gas that yield the feedstocks for 98% of plastic

polymers. Only 1–2% of plastics are derived from bio-based feedstocks or recyclates (i.e. recycled plastic polymers) (World Economic Forum et al., 2016, p.3). After extraction, these fossil fuels are refined and used by the petrochemical industry to produce plastic polymers. These polymers usually take the form of resin pellets or fibres and are widely described as “primary plastics.”

There are some 30 main types of plastic polymers (as well as a range of specialty polymers), which are then purchased by producers and suppliers of plastic materials and products for conversion and then manufacture into intermediate or final products (Barrowclough et al., 2020).

Figure 1. Overview of Plastic-Related Outputs and End Uses by Stage of Production



Source: Authors' compilation.

1. This brief is derived from a longer research paper published by TESS and authored by Vaca Eyzaguirre and Deere Birkbeck (2022) entitled *Improving the classification, monitoring, and reporting of global trade flows across the life cycle of plastics: Options for potential amendments to the Harmonized System*.

After consumption, the final stage of the life cycle of plastics includes the collection, sorting, and disposal of plastics. The disposal stage of the life cycle can include recycling, incineration, landfilling, and open burning of plastics as well as reuse. A significant share of plastic is not, however, managed in an environmentally sound manner in the post-consumer phase, and much is discarded or leaks into the natural environment. All stages of the life cycle of plastics can take place in both national and international markets.

Plastic pollution has multiple dimensions, occurs across the life cycle of plastics, and affects all countries, even those that are not the main producers or users of plastics. Efforts are underway by governments, industry, and civil society groups to address the multiple dimensions of plastic pollution, including:

- degradation of the environment due to the leakage of plastic waste and microplastics;
- public health risks arising from pollution across the life cycle of plastics and linked to the use of specific plastics and their additives; and
- greenhouse gas emissions across the life cycle of plastics.

2.2 Evolving Policy Approaches to Reducing Plastic Pollution and Technical Barriers to Advancing Policy Solutions

Spurred by public pressure to reduce plastic pollution, an increasing number of countries are adopting a widening array of policies and initiatives to reduce plastic pollution. Recent research has highlighted the need for a “system change” approach to reducing plastic pollution, calling for the simultaneous pursuit of multiple strategies (The Pew Charitable Trusts & SYSTEMIQ, 2000). The following six priorities are widely noted in a range of government policies and by stakeholders (Karasik et al., 2020; Akenji et al., 2019)

- **Eliminate** – the unnecessary use of plastics.
- **Decarbonize** – reduce the carbon footprint of the plastics sector, including through reduced use of fossil fuel feedstocks.

- **Substitute** – replace the use of plastics with non-plastic substitutes or with reuse and refill business models.
- **Reuse** – give an extended and second life to plastic products.
- **Redesign** – design products that are less or non-polluting and that can be recycled at any stage of the plastic life cycle.
- **Recycle** – transform plastics into feedstock or other useful materials.
- **Dispose** – dispose of plastic waste in ways that prevent leakage to the environment.

Disaggregated information across the life cycle of plastics is important because the environmental and health impacts of plastics and plastic products vary, as does the ease with which different plastics can be collected, sorted, disposed of, reused, and recycled. Across the life cycle of plastics, tackling plastic pollution requires granular information about the polymers and additives used in plastic products, consumption and investment trends, and environmental and health impacts. Information about polymer-product combinations, for instance, is key to redesigning products and to improving post-consumer management of plastics and plastic waste, including through collection, reuse, and recycling. In addition, information about the presence of specific harmful, hazardous, and toxic additives used in plastics is vital to protecting human health and the environment.

At present, however, there is no internationally recognized and comprehensive list (or classification) of plastics to facilitate a straightforward identification of which polymers are used by product category or industrial application. Further, most plastic products are not labelled in ways that clearly identify the additives included in them.

Such technical challenges underline the need for governments and stakeholders to pursue cooperation on international definitions, standards, requirements, and labelling in regard to the material composition of plastic products, which, in turn, will be important for trade cooperation. These technical challenges are also an important factor to bear in mind when considering politically and technically feasible options for amending the HS.

3. The Policy Environment and Priority Data Needs Around Trade Flows Across the Life Cycle of Plastics

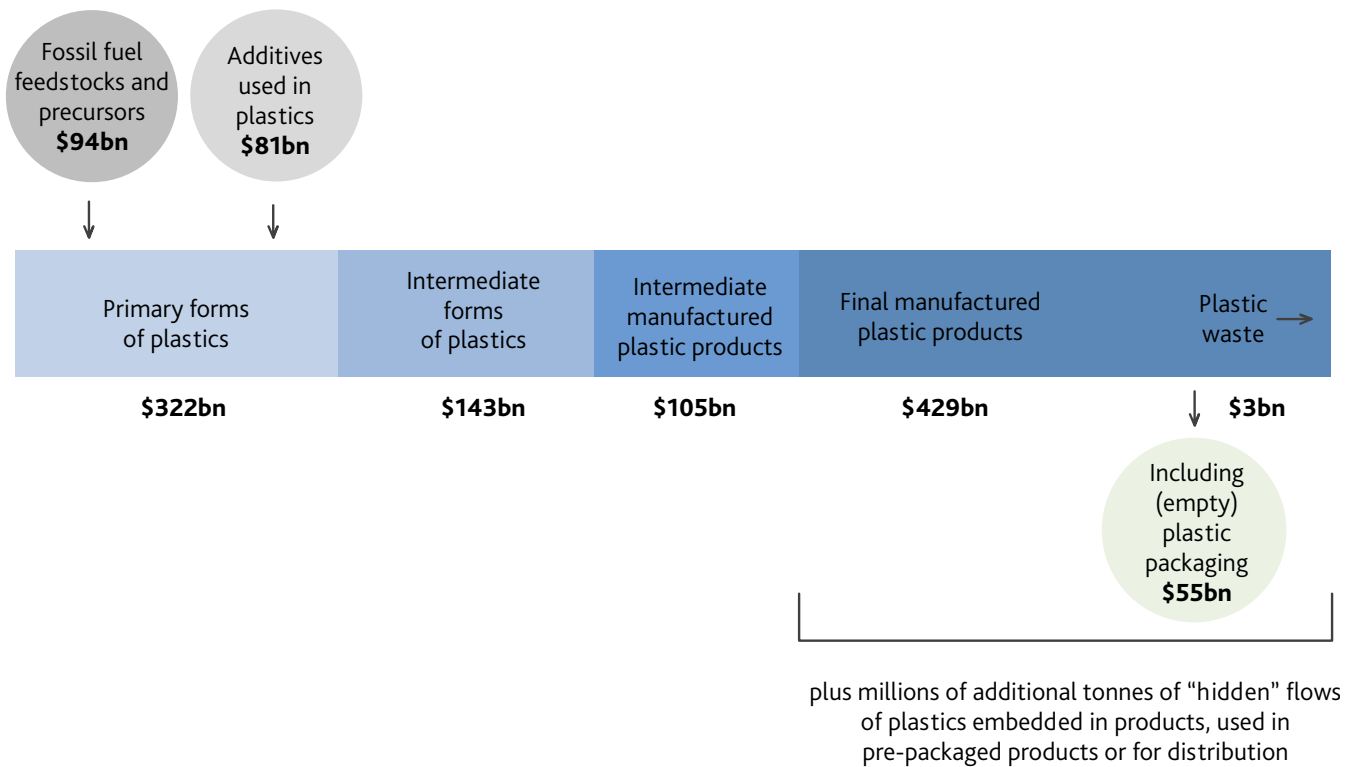
3.1 The Importance of Greater Transparency of Trade Flows Across the Life Cycle of Plastics

The rationale for improving the transparency of international trade across the life cycle of plastics arises from the range of policies to reduce plastic pollution that governments are pursuing and considering, many of which require more granular trade data.

Evidence-based national and international action to tackle plastic pollution relies on the availability of relevant data across the life cycle of plastics. With trade across the life cycle of plastics worth over US\$1 trillion, trade plays a central role in the global plastics economy and trade policies are important in shaping international plastics trade (Figure 2). International trade data is thus a critical part of the overall suite of data that governments and stakeholders need to address plastic pollution.

Figure 2. International Trade Flows Across the Life Cycle of Plastics (2019)

The total value of exports across the life cycle of plastics was at least US\$1 trillion in 2019 (at least 5% of the total value of global trade)



Source: Barrowclough & Deere Birkbeck (2022). Note that this figure does not include the additional value of "hidden" flows of plastics embedded in products, associated with pre-packaged products, and used for packaging, transportation and distribution of products that cross borders.

A broad diversity of governments and stakeholders recognize the importance of greater transparency of trade flows across the life cycle of plastics.

At the national and regional level, some governments have updated their trade classifications to enable them to better monitor and regulate trade in certain plastics and plastic products, and several countries are currently considering options for further amendments.

At the international level, the most significant global action to date to address trade-related aspects of plastic pollution has been the 2019 amendments to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. Effective from 1 January 2021, these so-called “plastic waste amendments” spurred a request for the Secretariat of the Basel Convention to develop a draft proposal to the WCO on amendments to the HS, with the goal of enabling governments to better track different kinds of trade in plastic waste in ways that would facilitate implementation of the Basel Convention (Secretariat of the Basel Convention, 2020)

Countries also have obligations related to plastics trade arising from the Stockholm Convention, which, among other goals, includes requirements on the production, use, import, and export of intentionally produced persistent organic pollutants (POPs). These requirements generate a need for data on trade flows of specific POPs used in plastics, including POPs embedded in plastic products, that governments aim to restrict or phase out. Governments are also working to enhance requirements for the identification and reporting of chemicals, including in response to the provisions contained in the Rotterdam Convention on international trade in hazardous chemicals.

At the WTO, a December 2021 Ministerial Statement on Plastic Pollution and Environmentally Sustainable Plastics Trade, now co-sponsored by 70 WTO members, contained a commitment to intensify work to “improve the understanding of global trade in plastics, including flows of plastics embedded in internationally traded goods or associated with them (such as plastic packaging), and enhance transparency regarding

trade policies relevant to reducing plastic pollution and more environmentally sustainable plastics trade” (WTO, 2021b).

The co-sponsors of the statement also agreed to identify “actions needed to improve gathering of data on trade flows and supply chains, including by utilizing the Harmonized Commodity Description and Coding System (HS Convention) of the World Customs Organization or other trade instruments or standards[...] and the flow of information about the chemical and material characteristics of plastic products traded internationally” (WTO 2021a).

3.2 Priority Information Needs Related to Plastic Pollution and Trade in Plastics

To guide consideration of the options for potential HS amendments, it is important to identify where trade-related data are most needed to facilitate government and stakeholder efforts to reduce plastic pollution. Ideally, trade data could be available, for instance, on all primary plastics by polymer, the polymers and their combinations, additives included in plastic products, and the packaging associated with products. Following is a brief overview of the data needs that arise from the range of different policy priorities being pursued by governments around the world in the area of plastic pollution and trade in plastics.

Restrict or Ban Trade in Specific Products and Categories of Products That Contribute to Plastic Pollution

For policy approaches that seek to reduce or eliminate the production, consumption, or trade of specific plastic polymers, additives, or plastic products, or to substitute such trade with non-plastic products, there is a need for specific HS classifications that can provide detailed information on relevant trade flows. For example, if a country bans or sets a reduction target for trade in a particular polymer, material, or product, then HS classifications are needed that can help customs authorities identify and reject imports of banned products while enabling imports of others.

Monitor and Regulate Trade by Plastic Polymer Type

To devise policies and regulations on specific plastic polymers or polymer-product combinations that contribute to plastic

pollution, policymakers need to be able to monitor the volumes and values of trade in different plastic polymers. Such monitoring would also help national policymakers devise appropriate waste management strategies and provide information vital for targeting policies and incentives to promote innovation in product design, material substitution, and plastic reduction.

Regulate Trade in Plastic Waste

As governments work to implement new requirements under the Basel Convention’s plastic waste amendments, more information on specific flows of different kinds of plastic waste identified in the amendments is needed to support better regulation of trade in plastic waste.

Promote Standards and Labelling Requirements for Imports and Exports

A growing number of countries are developing and applying standards and labelling requirements to boost transparency of the material composition or properties of plastic products. A number of countries already have regulations on plastic

packaging for food that cover, for example, the types of plastic polymer and additives that are permitted and for which traders must show proof of compliance. However, challenges arise where countries do not recognize each other’s standards or certification systems, or where testing facilities are not available to verify compliance (Weissing, 2021).

Promote Plastic Recycling and Use of Recycled Content

More granular data on trade flows in plastic waste would not only support governments to limit or ban trade in waste that cannot be managed in an environmentally sound manner in their countries, it would also support efforts to develop more environmentally sound waste management and recycling markets. Greater differentiation of plastic waste by plastic polymer type, plastic polymer combinations, material combinations—such as colourants and other additives used—and the presence of hazardous chemicals can help recycling markets work effectively and spur investment in appropriate environmentally sound waste management infrastructure and recycling capacity.

Table 1. Sample of Information and Trade Data Needs Relevant to Waste Management and Recycling

Plastic attribute or component	Type of data needed
<i>Mixtures</i>	Information on whether products or wastes are composed of mono-polymers (which are more easily recycled than mixed polymer products).
<i>Polymer type</i>	Information on plastic polymer type is critical to boost recycling efforts. In some countries, governments are working to phase out the use of certain plastic polymers because they contaminate or otherwise impede recycling or are unrecyclable.
<i>Polymer grade</i>	Information on whether a plastic polymer is flexible or rigid is relevant for the management of plastic waste, recyclability, and the development of recycling infrastructure.
<i>Additives</i>	Pigments and hazardous substances are additives that are known to reduce the value of recycled material. Pigments may affect the colour of recycled output and hence the value and use of recyclates. As for hazardous substances, not all recycling processes may be able to eliminate their presence in the final output.
<i>Liners, labels, components</i>	Labels (which can come in different forms and with adhesives) and other components that can be difficult for recyclers to remove. They influence the recyclability of a product by increasing losses in sorting and processing and decreasing the technical properties of recycled outputs.
<i>Contamination</i>	Contamination (from other plastic polymers, fibres, or residues for example) can affect the quality and quantity of recycling output and may raise the costs of sorting and disposal.
<i>Product-specific polymer information</i>	More product-specific plastic polymer information would enable governments to consider the need for appropriate collection and sorting facilities and also information on potential product contamination.

Source: Authors' compilation.

4. The HS and Shortfalls Versus Information Needs for Tackling Plastic Pollution

4.1 The Harmonized System

Used by governments and business across the world, the WCO's HS offers an internationally shared approach to classifying products. It has become an indispensable tool for tracking and measuring cross-border trade flows and covers 98% of merchandise products traded internationally (United Nations Trade Statistics, n.d.-a).²

HS codes are used by customs officers to support a range of different actions including: clearing commodities at their borders; applying trade measures that aim to protect the environment and public health; determining and collecting customs tariffs or duties for imports; applying quota controls; and generating statistics on imports and exports used in national accounts (WCO, n.d.). The HS is also used by other government agencies, international organizations, the private sector, and trade analysts for purposes such as conducting trade negotiations, developing trade policies, monitoring controlled goods, monitoring prices, and for economic analysis.

The HS classifies goods according to their nature, the way they are presented for sale, their final use, and whether they are intended for retail sale. Additional criteria or considerations are applied for certain products in response to evolving market and technological developments or changes in the kinds of goods that are traded internationally.

The HS classification includes 21 sections and 97 chapters (2-digit level codes) under which all traded goods can be classified. These are broken down into headings (4-digit level codes) and subheadings (6-digit level codes). Internationally, countries share the same system of headings and subheadings up to the HS 6-digit level, which comprises approximately 5,600 commodity groups (United Nations Trade Statistics, n.d.-a). In their national trade classifications,

countries often choose to further disaggregate HS codes to the level of 8, 10, or even 12 digits (UNCTAD, 2020, p.18).

The HS classification is accompanied by binding Explanatory Notes and a set of General Rules of Interpretation (GRIs), which aim to provide guidance to businesses and customs officials on the appropriate classification of goods (Kawazoe, 2019).

4.2 Plastic Pollution and HS Shortfalls

In the research paper that informs this policy brief, we identify at least 40 HS chapters and 912 HS subheadings at the 6-digit level are relevant to the life cycle of plastics (excluding feedstocks and precursors). However, there are seven key shortfalls of the existing HS classification from the perspective of the level of detail about trade in plastics required to support national and international efforts to tackle plastic pollution. A brief description of these limitations follows.

Insufficient Differentiation of Primary Plastics

The HS currently provides limited differentiation of primary plastics by polymer and feedstock. The few polymers that are disaggregated in HS headings 3901 to 3911 in Chapter 39 (see below) relate to a limited number of conventional fossil fuel based plastics. For example, the HS differentiates between polymers of ethylene, propylene, styrene, acrylic polymers, polyamides, and silicones, but not other types of polymers. The HS also has subheadings that cluster together a number of polymers, including subheadings for various vinyl polymers, polyacetals, amino-resins, phenolic resins, and polyurethanes. All other primary forms of plastic are clustered under a catch-all "other" category. Only one HS subheading refers to only one kind of non-conventional "bio-sourced" plastic polymer. The HS does not include a category for recycled plastic polymers.

2. Other related international systems for the classification of goods include the Standard International Trade Classification (SITC) Rev. 4, which clusters HS codes to create commodity groupings. The United Nations Central Product Classification (CPC) includes "all goods and services that can be the object of domestic or international transactions" (United Nations Trade Statistics, n.d.-b), and the International Standard Industrial Classification (ISIC) is used by most countries in their system of national accounts.

Insufficient differentiation of POPs and Other Harmful Chemical Additives

The HS covers a range of toxic and harmful chemical substances that are used in plastics. However, in many cases it insufficiently differentiates among specific chemicals, meaning that governments and stakeholders cannot properly monitor and control trade flows in such chemicals. A number of chemical additives used in plastics that are controlled by the Stockholm and Rotterdam conventions are clustered under various HS headings (mostly under Chapter 29 (Organic chemicals) and 38 (Miscellaneous chemical products)), albeit with different degrees of specificity.

Some, but not all, of the POPs and harmful chemical additives controlled by these conventions have specific classifications in the HS at the 6-digit level. For instance, some individual POPs are found under subheadings that include several different chemicals rather than under a dedicated HS code. A number of subheadings cluster individual chemicals that are considered hazardous and others that are not. Further, HS subheadings that relate to mixtures of chemicals do not differentiate between mixtures that may contain POPs or other harmful chemical additives.

Gaps in Scope of Products Classified as Plastics

From the perspective of plastic pollution, efforts to calculate trade in plastics often focus only on Chapter 39 (Plastics and articles thereof), and sometimes on Chapter 40 (Rubber and articles thereof). Yet while these two chapters cover a wide range of plastic products, they do not cover the full breadth of plastics and plastic inputs that cross international borders. Chapter 39, for instance, does not include a diversity of plastic products that can clearly be identified in other HS chapters (e.g. textile garments or fishing nets that are almost entirely made of plastics). Nor does Chapter 39 cover all plastic polymers (e.g. polymers used for synthetic textile fibres and synthetic rubber products).

Inadequate Information on the Material Composition of Plastic Products and Waste

For most intermediate and final manufactured plastic products, disaggregation by polymer type is rare in the HS system. Polymer-specific disaggregation is only available for 31 HS

6-digit codes, applying to only a small set of products and a handful of conventional polymer types. Regarding plastic waste, the HS differentiates by three polymer types (ethylene, vinyl chloride, styrene) but clusters all other plastic waste polymer types under the “other” category. There is also no specific subheading in the HS for plastic products made of recycled plastics or the shares of recycled material used. Moreover, the HS classifications do not enable governments to differentiate among products based on the presence of chemical substances of high environmental and health concern present in plastics, including in final manufactured plastic products and waste.

Varying Detail on the Share of Plastics Embedded in Products

A further crosscutting challenge is that the HS does not enable governments and stakeholders to identify and track the vast volume of “hidden” plastic that crosses international borders through trade—i.e. plastics that are either embedded in goods that contain a share (sometimes significant) of plastic but are not entirely plastic (e.g. cars, household and consumer goods) or plastic that is associated with products traded internationally like plastic packaging (see below).

At present, large volumes of embedded and associated plastics that cross international borders are not readily identifiable through HS codes. Hundreds of HS subheadings outside Chapter 39 relate to products that include one or more different types of plastic. For most of these HS codes, there is limited or no information on the share of the product that is “embedded” plastic. In some instances, single HS subheadings in Chapter 39 and other chapters cluster plastic products and products that contain a significant share of plastic although they may be used in different types of industries for purposes that have different environmental implications. Further, a range of products included in Chapter 39 as “plastics” are not all entirely plastics but can be combined with other materials (e.g. paper, aluminium) and different types of primary plastics.

Inadequate Information on Single-Use Plastics and Plastic Packaging

The HS offers little assistance to governments and stakeholders seeking to gather information on trade flows in plastic packaging. The HS classification includes, for instance, subheadings that

cluster together a broad range of products, such as for plastic table and kitchenware, plastic bottles, and plastic sacks and bags, whereas a number of governments are seeking to regulate imports and use of a subset of these products, especially single-use products. The HS provides specific codes for only a subset of plastic packaging traded internationally, namely various kinds of “empty” plastic packaging and certain plastic films and sheets (mostly in Chapter 39). This is a crucial shortfall as high volumes of plastic packaging are an integral part of many products traded internationally (e.g. pre-packaged processed foods and confectionery) and significant volumes of plastic packaging are also used in the transportation and distribution of products. The general failure to capture plastic packaging in the HS is linked to the GRIs, which stipulate that packaging, cases, and containers are usually to be classified with the goods with which they are associated (Barrowclough et al., 2020).

Inadequate Classification of Plastic Waste

The types of plastic waste identified in HS subheadings at the 6-digit level (as well as in national and regional trade classifications) to track plastic waste trade flows do not correlate with definitions and terminology used in the Basel Convention plastic waste amendments. To facilitate implementation of the amendments, the Secretariat of the Basel Convention was tasked by governments to advance a

proposal for how the new categories of plastic waste listed in its annexes can be reflected in the HS (Secretariat of the Basel Convention, 2020).

As noted, HS codes for plastic waste only distinguish between a subset of polymer types. In addition, they do not differentiate between the technical characteristics of specific polymers contained in waste and many types of plastic waste are clustered under the “other” category. The HS does not differentiate between waste from hazardous, contaminated, mixed, or residual material or the source of waste, nor does it provide specific categories for waste containing POPs or other harmful chemical additives. This implies that many different types of plastic waste and secondary material are considered the same when collecting data and complicates the urgent challenge of better regulations for trade in plastic waste.

A further challenge relates to the Section Notes to HS Chapter 39 on plastic waste. Beyond misalignment with the definitions and terminology used in the plastic waste amendments, the notes do not provide guidance on the approach to waste containing plastics. Moreover, lack of detail or ambiguity in the interpretation of notes can also contribute to erroneous classification of plastic waste by customs authorities and traders.

5. Key Considerations and Prospects for Amending the HS Classification

5.1 The HS Amendment Process and Criteria

Proposals to amend the HS may arise for several reasons, including to: respond to the emergence of new products that cannot be identified in the HS, enhance coherence between HS chapters that are part of a value chain; assist governments to monitor developments in key areas of public policy of importance, such as food security and environmental protection; monitor and facilitate the implementation of international agreements; and counter illicit trade and trafficking. The process of amending the HS classification and definitions is summarized in Box 1.

A review of HS amendments to date suggests that amendment proposals with the greatest likelihood of being adopted relate to products for which a critical mass of WCO members recognize the relevance and importance of the change—usually in terms of the value or volume of trade concerned, the environmental or social impact, or the potential to facilitate implementation of international agreements—and for which relevant international definitions or standards already exist. Because the HS provides a foundation for customs tariffs and trade statistics that is used worldwide, an essential consideration is the need for a relatively stable system that is not updated in ways that present excessive challenges for implementation that undermine its universality.

Box 1. The Harmonized System Amendment Process

The process of amending the HS classification and definitions often starts with a request from the private sector to one or more national customs administrations or trade ministries, which is then formulated into a national amendment proposal that is then formally submitted to the WCO. Intergovernmental organizations, subject to approval from member governments, may also send proposals to the HS for review. Draft texts are then sent to the HS Committee (HSC), which proposes and considers all of the amendments during a review cycle.

The HS Review Sub-Committee (RSC) is tasked with the work of revising the HS and preparing the necessary amendments to the nomenclature. The RSC usually meets twice a year and the conclusion of discussions on a particular proposal usually take up to three sessions. Based on the results of the discussions in the RSC, the HSC then prepares amendments to the legal texts. The amendments adopted by the HSC are collected in a draft recommendation, which is then presented to the WCO Council for approval.

After examination, the WCO Council recommends the amendments to the HS contracting parties or can request that the proposals be referred to the HSC for re-examination. The WCO rules provide that any contracting party may notify the WCO Secretary General of an objection to a recommended amendment within six months. Any recommended amendment is deemed to be accepted by the contracting parties six months after the date of the notification, provided there is no objection outstanding.

After approval, the HS Convention provides for a two-year period for implementation of the amendments. This implementation process can involve new legislation in member countries as well as training of customs officials.

Table 2. Envisaged Timetable for the HS 2027 Amendments

RSC first session to start the review process	2021
RSC last drafting session	November 2023
HSC votes on proposed amendments	March 2024
WCO Council session approves proposed amendments, followed by notification to parties	June 2024
Amendments are confirmed, following six month objection period	January 2025
Entry into force	1 January 2027

HS amendments can take several forms, such as changes to the structure and descriptions of headings and subheadings as well as changes to the Explanatory Notes and GRIs.

Growing concern about the impacts of trade on the environment have led to numerous proposals to update the HS to enable more effective monitoring of trade flows based on a range of different environmental characteristics and implications, as well as to facilitate implementation and enforcement of trade-related provisions in multilateral environmental agreements (MEAs). To date, while there have been a number of updates concerning plastics made to the HS, no amendments have specifically sought to respond to challenges linked to plastic pollution.

5.2 Key Considerations for Amending the HS Classification

A first step towards addressing data gaps on cross-border trade relevant to plastic pollution is to identify how and where the HS could be amended to respond to data needs across the life cycle of plastics and in relation to plastic pollution policies. This subsection describes five issues to consider when assessing options for HS amendments designed to support efforts to tackle plastic pollution.

Alignment With the Existing HS Structure

Any proposal for HS amendments must take into account the existing structure of the HS nomenclature. It must also balance

flexibility to respond to emerging trends and policy needs with the need for stability of the HS system over time. The HS structure means that there is a finite number of headings and subheadings available.

Possible amendments can be clustered under two broad approaches:

- For 6-digit codes identified as potential candidates for amendment that end in 0, 1, or 2. In principle, between 7–9 HS subheadings could be created for these 6-digit codes.³
- For the remaining 10% of HS subheadings, adding 6-digit codes would require restructuring (i.e. revising) the 4-digit headings to create scope for further differentiation that could support implementation of policies to reduce plastics pollution.⁴

Political Feasibility of Proposed HS Amendments

Proposals to amend HS codes are most likely to succeed if they build on existing regulations, agreements, and international standards relating to polymers and plastic products as well as national and regional HS codes associated with plastic goods. For example, many countries have regulations on polymers used in food packaging and on chemicals and textile materials. Most countries also specify that product labels must indicate materials used. The existence and content of such national legislation and regulations will have an important bearing on the political interest in HS amendments. The probability of success will likely be higher if it can be shown that proposed HS amendments are aligned with and support implementation of existing national policy priorities, and if there is shared concern among countries about specific plastic pollution challenges.

Alignment With Provisions of Relevant Multilateral Environmental Agreements

Requirements related to the implementation of trade-related provisions in MEAs that are relevant to the life cycle of plastics are a further factor that will impact the political interest and feasibility of certain HS amendments. Governments have, for

instance, agreed on a number of amendments to align HS codes with the purposes of MEAs like the Basel, Rotterdam, and Stockholm conventions.

Technical Feasibility of Implementation of Proposed HS Amendments

Any HS amendment generates obligations on governments to apply the amended HS codes at the national level. The HS amendment process therefore considers whether and how it is possible to ensure implementation can be efficient, affordable and practical. Assessing the capabilities of countries to identify products at their borders based on complex technical regulations and standards is a complicated task. The resources available to customs authorities vary widely across countries, as do their capacities to test and verify compliance of product categorization with the HS classification.

Notably, existing national environmental regulations and trade measures related to plastics and plastic pollution can serve as useful proxies for assessing the potential interest of governments as well as their capabilities for implementing HS amendments relevant to different stages of the life cycle of plastics. National HS classifications (at the 8- and 10-digit level) are also a useful source of information in this area, especially where countries can share experiences and build cooperation around their existing efforts to implement more detailed classifications.

Value or Volume of Affected Trade

HS amendments are more likely to be approved where international trade flows are significant. Recent UNCTAD analysis shows that volumes and values of international trade are significant across the life cycle of plastics (Barrowclough et al., 2020). The value of trade for the multitude of products with associated plastic packaging certainly exceeds the value thresholds referred to in previous HS amendments. As noted above, even where HS amendments are not adopted, countries with specific concerns or interests in regard to specific trade flows relevant to plastic pollution can adopt additional HS codes at the 8- and 10-digit level where relevant for their national policy objectives.

3. For instance, HS 630710 is followed by HS 630720, which means that nine additional subheadings could be added between the two.

4. Changes to the HS structure at the 4-digit level are not without precedent. The HS 2022 revision, for example, restructured heading HS 6201 to remove distinctions between garments by type in favour of a revised distinction by material. The full list of 2022 HS amendments can be found in WCO (2020a).

6. Options for Amendments to the HS Classification to Support Plastic Pollution Reduction

The research paper from which this policy brief is derived identifies a broad array of possible amendment options for 620 HS subheadings (Vaca Eyzaguirre & Deere Birkbeck, 2022) and offers a preliminary appraisal of the political and practical potential for each amendment option to be advanced.⁵ Drawing from the broad range of potential HS amendment

options identified, the paper recommends a focus on a subset of options in the 2027 HS amendment cycle, which represents an immediate but short window of opportunity for action. These recommendations are organized by stage of the life cycle of plastics as listed in Table 2.⁶

Table 2. Recommendations for the 2027 HS Amendment Cycle to Support Plastic Pollution Reduction

Feedstocks and additives
<ul style="list-style-type: none"> ▪ Add specific HS codes for chemicals such as POPs and other harmful chemical additives used in plastics, starting with those controlled by the Stockholm or Rotterdam Conventions.
Plastics in primary forms
<ul style="list-style-type: none"> ▪ Create new HS subheadings to allow for greater disaggregation of primary polymer types, many of which are already identified in national legislation or regulatory frameworks.
<ul style="list-style-type: none"> ▪ Create new HS subheadings for the most commonly recycled primary polymers, such as recycled ethylene, propylene, and styrene polymers.
<ul style="list-style-type: none"> ▪ Amend the Section Notes for Chapter 39 to guard against illegal trade of plastic waste being misclassified or disguised under subheadings on primary polymers.
Intermediate and final manufactured plastic products
<ul style="list-style-type: none"> ▪ Create new HS subheadings to enable disaggregation of a subset of intermediate and manufactured plastic products that are particularly associated with plastic pollution, with a focus on disaggregation by a wider range of polymers as well as mixtures of polymers and materials.
<ul style="list-style-type: none"> ▪ Create new HS subheadings that disaggregate a wider range of single-use plastics, focusing on those identified in national legislation as of high concern from the perspective of plastic pollution.
<ul style="list-style-type: none"> ▪ Amend HS subheadings to incorporate specific information for products made of polymers that contain POPs and other harmful chemical additives.
<ul style="list-style-type: none"> ▪ Amend and create HS subheadings to reveal information about “hidden” plastic packaging associated with trade in certain products.
Plastic waste
<ul style="list-style-type: none"> ▪ Create new HS subheadings for a range of plastic wastes to differentiate by more polymer types and better align the HS classification with the annexes to the Basel Convention.
<ul style="list-style-type: none"> ▪ Amend the Section Notes for HS Chapter 39 to align with definitions provided in the Basel Convention plastic waste amendments.

5. The methodology for this identification is based on desk review of industry reports, studies on environmental issues arising across the life cycle of plastics, appraisal of national legislation, review of HS codes used at the national level, and expert consultations with government, the private sector, and other stakeholders on the kinds of information needed to support specific policy goals related to plastic pollution. A feasibility assessment was then conducted for the amendment options based on the criteria described in section 5.2.

6. The recommendations for the 2027 amendment cycle, by stage of the life cycle of plastics, are presented in Annex I.

7. Way Forward

As governments work to bolster international cooperation to tackle the plastic pollution crisis, there is growing recognition that action must be taken across the life cycle of plastics. Yet efforts to pursue such action is constrained by the lack of data on trade flows across this life cycle.

Ongoing deliberations at the WCO on the next cycle of HS amendments, expected to enter into force in 2027, provides an opportunity for governments and stakeholders to advance a set of options for amendments that would improve information on trade flows that are vital to the development of coherent, evidence-based policies and strategies to reduce plastic pollution.

Action on the HS amendment options and recommendations put forward in this policy brief would enhance the ability of governments to implement and monitor progress on international environmental commitments and also to bolster cooperation through a new international instrument on plastic pollution. It would also inform and strengthen dialogue on how international cooperation on trade policies could support efforts

to tackle plastic pollution, including discussions at the WTO in the context of the Informal Dialogue on Plastics Pollution and Environmentally Sustainable Plastics Trade (WTO, 2021a) and at UNCTAD.

The 2027 HS amendment cycle at the WCO provides an immediate and critical opportunity for governments to strengthen the empirical foundation for national policies and international cooperation to tackle the plastic pollution. Waiting for the subsequent cycle would yield amended classifications that would enter into force in 2032 at the earliest.

In this context, there is an urgent need for governments, intergovernmental organizations, and stakeholders to develop and submit detailed proposals for the 2027 HS amendment cycle for consideration by relevant committees at the WCO in 2022 and 2023. Moving amendment proposals forward will require the active engagement with environmental officials and experts who can provide critical expertise and evidence on priorities, and active collaboration among trade, customs, and environmental authorities.

ABBREVIATIONS

GRI	General Rules of Interpretation
HS	Harmonized Commodity Description and Coding System
HSC	HS Committee
POPs	Persistent Organic Pollutants
RSC	HS Review Sub-Committee
MEA	Multilateral Environmental Agreement
UNCTAD	United Nations Conference on Trade and Development
WCO	World Customs Organization
WTO	World Trade Organization
UNEA	United Nations Environment Assembly

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ANNEX. Recommendations for the 2027 HS Amendment Cycle by Stage of the Life Cycle of Plastics

Additives, feedstocks and primary forms		
HS 2022	HS proposed	HS description
271091		Waste oils; of petroleum or obtained from bituminous minerals, not crude; and preparations n.e.c., weight 70% or preparations of the same, containing polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs)
	TBD	Containing \pm polychlorinated biphenyls (PCBs)
	TBD	Containing polychlorinated terphenyls (PCTs)
	TBD	Containing polybrominated biphenyls (PBBs)
290329		Unsaturated chlorinated derivatives of acyclic hydrocarbons; n.e.c. in item no. 2903.2
	TBD	\pm Hexachlorobutadiene (HCBD), Of other
290930		Ethers; aromatic, and their halogenated, sulphonated, nitrated or nitrosated derivatives
	290931	Of Decabromodiphenyl ether (POP)
	290932	Of Pentabromodiphenyl ether (POP)
	290933	Of Hexabromodiphenyl ether (POP)
	290934	Of Heptabromodiphenyl ether (POP)
	290935	Of Octabromodiphenyl ether (POP)
	290936	Of Tetrabromodiphenyl ether (POP)
	290939	Other
382487		Chemical products, mixtures and preparations; containing goods specified in Subheading Note 3 to this Chapter; containing perfluorooctane sulphonic acid, its salts, perfluorooctane sulphonamides, or perfluorooctane sulphonyl fluoride
	TBD	Containing perfluorooctane sulphonic acid - its salts
	TBD	Containing perfluorooctane sulphonamides
	TBD	Containing perfluorooctane sulphonyl fluoride
382488		Chemical products, mixtures and preparations; containing goods specified in Subheading Note 3 to this Chapter; containing tetra-, penta-, hexa-, hepta- or octabromodiphenyl ether
	TBD	Decabromodiphenyl ether
	TBD	Tetrabromodiphenyl ether
	TBD	Pentabromodiphenyl ether
	TBD	Hexabromodiphenyl ether
	TBD	Heptabromodiphenyl ether
	TBD	Octabromodiphenyl ether

Primary Forms		
HS 2022	HS proposed	HS description
390110		Ethylene polymers; in primary forms, polyethylene having a specific gravity of less than 0.94
	TBD	Differentiate flexible and rigid
390120		Ethylene polymers; in primary forms, polyethylene having a specific gravity of 0.94 or more
	TBD	Differentiate flexible and rigid,
390190		Ethylene polymers; in primary forms, n.e.c. in heading no. 3901
	TBD	Derived from recovered (waste and scrap) plastic + Differentiate by level of flexibility, or density, or coloured/colourless
390290		Propylene, other olefin polymers; n.e.c. in heading no. 3902, in primary forms
	TBD	Derived from recovered (waste and scrap) plastic + differentiate by level of flexibility, or density, or coloured/colourless
390390		Styrene polymers; in primary forms, n.e.c. in heading no. 3903
	TBD	Derived from recovered (waste and scrap) plastic + differentiate by level of flexibility, or density, or coloured/colourless
390490		Vinyl chloride, other halogenated olefin polymers; n.e.c. in heading no. 3904
	TBD	Derived from recovered (waste and scrap) plastic + differentiate by level of flexibility, or density, or coloured/colourless
391110		Petroleum resins, coumarone, indene or coumarone-indene resins and polyterpenes; in primary forms
	TBD	Of coumarone
	TBD	Of indene resins
	TBD	Of coumarone-indene resin
	TBD	Of polyterpenes
	TBD	Other
391190		Polysulphides, polysulphones and similar products of chemical synthesis n.e.c. in Chapter 39; in primary forms
	391191	Polysulphides
	391192	Polysulphones
	391199	Other
391400		Ion-exchangers; based on polymers of heading no. 3901 to 3913, in primary forms
	TBD	Polystyrene
	TBD	Other polymers relevant to plastic pollution

Intermediate and Final Manufactured Plastic Goods		
HS 2022	HS proposed	HS description
200990*		Juices; mixtures of fruits or vegetables, unfermented, not containing added spirit, whether or not containing added sugar or other sweetening matter
	200991	Packaging made of HDPE
	200992	Packaging made of PP
	200993	Packaging made of PET
	200994	Packaging made of mixed polymer with or without contaminant
	200995	Packaging made of steel, aluminium, tin-coated
	200996	Packaging made of glass
	200997	Packaging made of other material with no more than 15% plastic polymer
	200998	Packaging made of >30% recycled PET
	200999	Packaging made of other material not elsewhere specified, including natural fibres
391690		Plastics; monofilament, of plastics n.e.c. in heading no. 3916, cross-sectional dimension exceeds 1mm, rods, sticks and profile shapes, whether or not surface-worked but not otherwise worked
	TBD	Differentiate by polymer type
391810		Floor, wall or ceiling coverings; of polymers of vinyl chloride, whether or not self-adhesive, in rolls or in the form of tile
	TBD	Polymers of vinyl chloride
	TBD	Mixed with other material
391910		Plastics; plates, sheets, film, foil, tape, strip, other flat shapes thereof, self-adhesive, in rolls of a width not exceeding 20cm
	TBD	Differentiate by polymer type
391990		Plastics; plates, sheets, film, foil, tape, strip, other flat shapes thereof, self-adhesive, other than in rolls of a width not exceeding 20cm
	TBD	Differentiate by polymer type
391729- 391740		Plastics; tubes, pipes and hoses thereof, rigid, flexible, etc
	TBD	Differentiate by polymer type
392010		Plastics; plates, sheets, film, foil and strip (not self-adhesive), of polymers of ethylene, non-cellular and not reinforced, laminated, supported or similarly combined with other materials
	392051	Of polyethylene (PE)
	392012	Of mixed polymers
	392019	Of mixed materials
392072		Plastics; plates, sheets, film, foil and strip, of vulcanised fibre, non-cellular and not reinforced, laminated, supported or similarly combined with other materials
	TBD	Of LDPE
	TBD	Of PET
	TBD	Of Mixed polymers
392310		Plastics; boxes, cases, crates and similar articles for the conveyance or packing of good
	TBD	Of HDPE Mixed polymer
	TBD	Of PP
	TBD	Of other mono-thermoplastic
	TBD	Of mono-thermosets,
	TBD	Of Mixed polymer
	TBD	Of other material with no more than 15 (20)% of polymer

392321		Ethylene polymers; sacks and bags (including cones), for the conveyance or packing of goods
	TBD	Of HDPE
	TBD	Of LDPE
392329		Plastics; sacks and bags (including cones), for the conveyance or packing of goods, of plastics other than ethylene polymers
	TBD	Of PP
	TBD	Of PET
	TBD	Of PVC
	TBD	Other monomaterial
	TBD	Mixed polymer
392330		Plastics; carboys, bottles, flasks and similar articles, for the conveyance or packing of goods
	TBD	HDPE
	TBD	Of PP
	TBD	Of PET
	TBD	Of other mono-thermosets
	TBD	Other mono-thermoplastics
	TBD	Of mixed polymer
392340		Plastics; spools, cops, bobbins and similar supports, for the conveyance or packing of goods
	TBD	Of PVC
	TBD	Of PP
	TBD	Of other mono-thermoplastic
	TBD	Of mono-thermosets
	TBD	Of mixed polymers
392350		Plastics; stoppers, lids, caps and other closures, for the conveyance or packing of goods
	TBD	Of HDPE
	TBD	Of PP
	TBD	Other mono-thermoplastic
	TBD	Of mono-thermosets
	TBD	Of mixed polymer
392390		Plastics; articles for the conveyance or packing of goods n.e.c. in heading no. 3923
	TBD	Of HDPE
	TBD	Of PP
	TBD	Of PET
	TBD	Of other mono-thermoplastic
	TBD	Of mono-thermosets
	TBD	Of mixed polymer
392620		Plastics; articles of apparel and clothing accessories (including gloves, mittens and mitts)
	TBD	Of HDPE
	TBD	Of Polyurethane
	TBD	Of PVC
	TBD	Of other mono-polymer
	TBD	Of mixed polymer

401110*****		Rubber; new pneumatic tyres, of a kind used on motor cars (including station wagons and racing cars)
	TBD	Rubber reinforced with a mono-polymer
	TBD	Rubber reinforced with other material (no plastic)
401220*****		Rubber; used pneumatic tyres
	TBD	Rubber reinforced with a mono-polymer,
	TBD	Rubber reinforced with other material (no plastic)
560811		Twine, cordage or rope; fishing nets, made up of man-made textile materials
	560812	Of HDPE or PP
	560813	Of Nylon
	560814	Of PVC
	560815	Of other mono-polymer
570190		Carpets and other textile floor coverings; knotted, of textile materials (other than wool or fine animal hair), whether or not made up
	TBD	Of nylon
	TBD	Of polyester
	TBD	Of other polymer
	TBD	Of other material
570232		Carpets and other textile floor coverings; woven, (not tufted or flocked), of man-made textile materials, of pile construction, not made up, n.e.c. in item no. 5702.10 or 5702.20
	TBD	Of nylon
	TBD	Of polyester
	TBD	Of olefin
	TBD	Of acrylic
	TBD	Of other material
570242		Carpets and other textile floor coverings; woven, (not tufted or flocked), of man-made textile materials, of pile construction, made up, n.e.c. in item no. 5702.10 or 5702.20
	TBD	Of nylon
	TBD	Of polyester
	TBD	Of olefin
	TBD	Of acrylic
	TBD	Of other material
570292		Carpets and other textile floor coverings; woven, (not tufted or flocked), of man-made textile materials, (not of pile construction), made up, n.e.c. in item no. 5702.10 or 5702.20
		Of nylon
560122	TBD	Of polyester
	TBD	Of olefin
	TBD	Of acrylic
	TBD	Of other material
570320 590390		Carpets and other textile floor coverings; tufted, of nylon or other polyamides, whether or not made up
		Of nylon
		Of other polyamides
		Of mono-polymer
		Of mixed polymer

620193**		Anoraks (including ski-jackets), wind-cheaters, wind-jackets and similar articles; men's or boys', of man-made fibres, other than those of heading no. 6203 (not knitted or crocheted)
	TBD	Made primarily (85%) of polyester
	TBD	Made primarily (85%) of acrylic
	TBD	Made primarily (85%) of spandex
	TBD	Of other mono-polymer
	TBD	Of mixed polymer and other material
620312**		Suits; men's or boys', of synthetic fibres (not knitted or crocheted)
	TBD	Made primarily (85%) of polyester
	TBD	Made primarily (85%) of cellulosic fibers (such as rayon, viscose, etc.)
	TBD	Of other mono-polymer
	TBD	Of mixed polymer and other material
630531		Sacks and bags; of a kind used for the packing of goods, of polyethylene or polypropylene strip or the like
	TBD	Of polypropylene
	TBD	Of polyethylene
630532		Sacks and bags; of a kind used for the packing of goods, of man-made textile materials, flexible intermediate bulk containers
	TBD	Of polypropylene
	TBD	Of polyethylene
	TBD	Of other mono-polymers
	TBD	Of mixed-polymer
630533		Sacks and bags; of a kind used for the packing of goods, of man-made textile materials, of polyethylene or polypropylene strip or the like, not flexible intermediate bulk containers
	TBD	Of LDPE
	TBD	Of PP
	TBD	Of PET
	TBD	Of other mono-thermoplastic
	TBD	Of mono-thermosets
	TBD	Of Mixed polymer
640219***		Sports footwear; (other than ski-boots, snowboard boots or cross-country ski footwear), with outer soles and uppers of rubber or plastic
	TBD	Of PU
	TBD	Of mono-polymer
	TBD	Of mixed polymer
	TBD	Of other fibers (no polymer)
	TBD	Other material
940370		Furniture; plastic
	TBD	Of mono-polymer with POPs or other hazardous substance
	TBD	Of mixed polymer with POPs or other hazardous substance
	TBD	Of mono-polymer without POPs or other hazardous substance
	TBD	Of mixed polymer without POPs or other hazardous substance

Plastic Waste		
HS 2022	HS proposed	HS description
382510		Residual products of the chemical or allied industries, not elsewhere specified or included; municipal waste
	TBD	- Differentiate solid fuels made from waste that has only been repackaged, dried, compressed or shredded: refuse-derived fuel (RDF), - Differentiate between products that contain plastic or are made out of plastic but remain waste under Basel convention definition
382520		Residual products of the chemical or allied industries, not elsewhere specified or included; sewage sludge
	TBD	Differentiate by share of microplastic content
382530		Residual products of the chemical or allied industries, not elsewhere specified or included; clinical waste
	TBD	Differentiate between products that contain plastic or are made out of plastic but remain waste under Basel Convention definition, and whether they contain hazardous characteristics or not
391510		Ethylene polymers; waste, parings and scrap
	391511	- Containing hazardous constituents or hazardous characteristics as defined in the Basel, Stockholm or Rotterdam Conventions
	391512	- Almost free from contamination
	391519	- Other
391520		Styrene polymers; waste, parings and scrap
	391521	- Containing hazardous constituents or hazardous characteristics as defined in the Basel, Stockholm or Rotterdam Conventions,
	391522	- Almost free from contamination,
	391529	- Other
391530		Vinyl chloride polymers; waste, parings and scrap
	391531	--Containing hazardous constituents or hazardous characteristics as defined in the Basel, Stockholm or Rotterdam Conventions
	391532	--Almost free from contamination
	391539	--Other
	391540	Polypropylene (PP); waste, parings and scrap
	391541	--Containing hazardous constituents or hazardous characteristics as defined in the Basel, Stockholm or Rotterdam Conventions
	391542	--Almost free from contamination
	391549	--Other
	391550	Polyethylene terephthalate (PET); waste, parings and scrap
	391551	--Containing hazardous constituents or hazardous characteristics as defined in the Basel, Stockholm or Rotterdam Conventions
	391552	--Almost free from contamination
	391559	--Other
	391560	Single, unmixed, non-halogenated polymers that are not hazardous waste or "other waste" included in 391510 to 391550
	391561	--Acrylonitrile butadiene styrene (ABS)
	391562	--Polycarbonates
	391563	--Polyethers
	391569	--Other non-halogenated polymers
	391570	Single, unmixed, cured waste resins or condensation products that are not hazardous waste or "other waste"
	391580	Single, unmixed, fluorinated polymer wastes that are not hazardous waste or "other waste"
	391582	Mixed and unmixed plastics proceeded from electronic waste (e.g., ABS, PP, high impact polystyrene (HIPS))

391590		Plastics, n.e.c. in heading no. 3915: waste, parings and scrap
	391591	Mixtures of plastic waste, consisting of one or more of polyethylene (PE), polypropylene (PP) or polyethylene terephthalate (PET) provided they are destined for separate recycling, and that are not hazardous waste or "other waste"
	391592	Non-hazardous wastes arising from the production, formulation and use of resins, latex, plasticizers, glues and adhesives, free of solvents and other contaminants
	391593	Hazardous wastes arising from production, formulation and use of resins, latex, plasticizers, glues and adhesives
	391594	Hazardous wastes arising from the production of aliphatic halogenated hydrocarbons (such as chloro-methane, dichloro-ethane, vinylidene chloride, allyl chloride and epichlorhydrin) excluding vinyl chloride polymer
	391595	Hazardous waste, including mixtures of such waste, containing or contaminated principally by organic constituents, which may contain metals and inorganic materials
	391596	Waste from the pre-treatment of composite packaging for liquids, not containing hazardous characteristics, that is made of non-separable plastic fraction
	391597	Waste from the pre-treatment of composite packaging for liquids, not containing hazardous characteristics, made of non-separable plastic-aluminium fractions
	391598	"Other waste": Mixtures of wastes unless these are hazardous or presumed not to be hazardous
	391599	Other plastic waste n.e.c.
400400		Rubber; waste, parings and scrap of rubber (other than hard rubber) and powders and granules obtained therefrom
	TBD	Of rubber reinforced with polyester fibers,
	TBD	Of rubber reinforced with another mono-polymer
	TBD	Of rubber reinforced with hazardous chemicals
	TBD	Of rubber reinforced with other material (no plastic)
401700		Rubber; ebonite and other hard rubbers in all forms, including waste and scrap, and articles of hard rubber
	TBD	Of rubber reinforced with polyester fibers
	TBD	Of rubber reinforced with another mono-polymer
	TBD	Of rubber reinforced with hazardous chemicals
	TBD	Of Rubber reinforced with other material (no plastic)
	470740	Paper, paperboard and paper product; waste and scrap, of laminated paper or paperboard
470790		Paper or paperboard; waste and scrap, of paper or paperboard n.e.c. in heading no. 4707 and of unsorted waste and scrap
	TBD	Containing plastic (identify threshold of plastic content)
550510		Fibres; waste (including noils, yarn waste and garnetted stock), of synthetic fibres
	TDB	Of polyamides
	TBD	Of polyesters
	TBD	Of acrylic or modacrylic staple fibres
	TBD	Of polypropylene staple fibres
	TBD	Of other monopolymer
	TBD	Of mixed polymer
550520		Fibres; waste (including noils, yarn waste and garnetted stock), of artificial fibres
	TBD	Of monopolymer
	TBD	Of mixed polymer

630900		Clothing; worn, and other worn articles
	TBD	Of polyester
	TBD	Of nylon
	TBD	Of other monopolymer
	TBD	Of natural fibres
854810		Waste and scrap of primary cells, primary batteries and electric accumulators; spent primary cells, spent primary batteries and spent electric accumulators
	854811	Containing plastic and hazardous constituents or hazardous characteristics as defined in the text of the Basel, Rotterdam or Stockholm Conventions
	854812	Containing plastic and non-hazardous constituents or no-hazardous characteristics as defined in the text of the Basel, Rotterdam or Stockholm Conventions
854890		Electrical parts of machinery or apparatus; n.e.c. in chapter 85
	854891	Waste metal cables coated or insulated with plastics containing hazardous constituents or hazardous characteristics as defined in the text of the Basel Convention
	854892	Waste metal cables coated or insulated with plastics containing no-hazardous constituents or no-hazardous characteristics as defined in the text of the Basel Convention
	854893	Waste electrical and electronic assemblies or scrap (including printed circuit boards) not containing components such as accumulators and batteries that do not have hazardous constituents or hazardous characteristics as defined in the text of the Basel Convention but containing plastic
	854894	Electrical and electronic assemblies (including printed circuit boards, electronic components and wires) containing plastic that are destined for direct reuse, and not for recycling or final disposal
	854899	Other electrical parts of machinery or apparatus; n.e.c. in chapter 85

Note: n.e.c. = not elsewhere classified; TBD = to be determined.

Items in blue are recommendations proposed in the research paper from which this policy brief is derived (Vaca Eyzaguirre & Deere Birkbeck, 2022).

* this approach could be taken with a range of different pre-packaged beverages, sauces and condiments, and personal care items (e.g., hair preparations, perfumes), such as those in HS 3303, 3304, 3305, 2201, 2202, and 2103.

** similar approaches could be taken with a range of textile and clothing products made of synthetic fibres.

*** this approach could be taken with a range of footwear products classified under HS 6402 – HS 6406

**** this approach could be taken with a range of rubber tyres classified under HS 4011 - HS 4012

***** this approach could be taken with a range of textiles made of synthetic fibres classified under HS 6301 – HS 6307.

Source: Authors' compilation.

About TESS

By promoting dialogue on trade, the environment, and sustainable development, the Forum on Trade, Environment & the SDGs (TESS) supports a trading system that addresses global environmental crises and advances the Sustainable Development Goals. Our work catalyses inclusive, evidence-based, and solutions-oriented debate, facilitates engagement between policy communities, and inspires governments and stakeholders to build consensus for meaningful action on trade and trade policies that work for people and the planet. TESS is a partnership of the Geneva Graduate Institute and the United Nations Environment Programme (UNEP), housed at the Geneva Trade Platform.

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