Committee of Experts on the Transport of Dangerous Goods and on the Globally Harmonized System of Classification and Labelling of Chemicals

Sub-Committee of Experts on the Transport of Dangerous Goods **3 June 2025**

Sixty-sixth session
Geneva, 30 June-4 July 2025
Item 3 of the provisional agenda
Listing, classification and packing

Regulation of maritime transport of plastic pellets

Transmitted by the experts from Germany and the Kingdom of the Netherlands

I. Introduction

1. In 2024, the International Maritime Organisation (IMO) introduced *Recommendations for the carriage of plastic pellets by sea in freight containers*[1], with the aim of reducing the environmental risks associated with the carriage of plastic pellets. The introduction of mandatory measures is currently being discussed by IMO. One of the options under consideration is to use the International Maritime Dangerous Goods (IMDG) Code for the regulation of the transport of plastic pellets by sea. The Sub-Committee is invited to consider the assignment of a UN number for plastic pellets transported at sea in freight containers, in order to facilitate this.

II. Background

2. Plastic pellets are small plastic granules (also known as nurdles) that are widely used as the base material in the manufacturing of plastic products. Because of their widespread use, plastic pellets are transported around the globe in large volumes, a.o. by sea (for example, maritime transport accounted for around 38 per cent of all pellets transported in the European Union (EU) in 2022[2]).

3. In recent years, there have been several incidents from container ships where large quantities of pellets ended up in the sea and on beaches. In January 2019, the MSC Zoe lost at least 342 containers in the North Sea during a severe storm; one single container resulted in the release of 22.5 tonnes of polymer plastic beads into the ocean[3]. The MV X-Press Pearl sunk and 11,000 tonnes of plastic pellets were released into the sea off the shore of Colombo, Sri Lanka in May 2021[4]. The MV Trans Carrier on its way to from the Kingdom of the Netherlands to Norway in February 2020, was hit by a storm and a total of 13.2 tonnes of plastic pellets were released and contaminated the shores of Norway, Sweden and Denmark[5]. Further similar incidents include the vessels Toconao (Spain, 2024) and Solong (England, 2025). An estimated 445 tons of plastic pellets are lost in the transport chain annually[6].

---

[1] https://wwwcdn.imo.org/localresources/en/MediaCentre/HotTopics/Documents/MEPC.1-Circ.909.pdf

[2] https://www.consilium.europa.eu/en/press/press-releases/2025/04/08/plastic-pellet-losses-council-and-parliament-agree-on-new-rules-to-reduce-microplastic-pollution/#:~:text=declaration%20of%20conformity.-,Maritime%20transport,in%20the%20EU%20in%202022

[3] http://www.gesamp.org/site/assets/files/2213/rs108e.pdf

[4] MEPC 77/8/3

[5] PPR 9/15/2

[6] https://hub.nurdlehunt.org/resource/oracle-mapping-the-global-plastic-pellet-supply-chain/

4. When plastic pellets are released and dispersed into the marine environment, they can harm living resources and marine life. Plastic pellets may contain several substances such as phthalates, flame retardants, organochlorines, benzotriazole UV stabilizers and substances with endocrine disrupting effects, that are classified as hazardous (toxic) on their own. In addition, once in the environment, plastic pellets can adsorb and leach a large range of persistent, bioaccumulating toxins such as dichlorophenyltrichloroethane (DDT) and polychlorinated biphenyls (PCBs), which are present in ambient water[7]. Plastic pellets therefore pose a danger to the environment and human health when they end up in the (marine) environment and eventually in the food chain. Additionally, plastic pellets can interfere with other legitimate uses of the sea, such as fishing and aquaculture, and can be washed up on beaches and coastlines and, as a result, negatively impact tourism and shore-based activities. Plastic pellets biodegrade very little or not at all in the environment. Plastic pellets are a major source of unintentional microplastic release.

5. In addition, recovering the pellets is complicated and costly once they have been released into the marine environment.

6. The prevention of the loss of plastic pellets, because of their impact on the environment, has been the subject of discussions on an international level in recent years, in different frameworks. In 2022, a resolution was adopted by the UN Environment Assembly (UNEA-5.2) to develop an international legally binding instrument on plastic pollution, including in the marine environment. Negotiations are expected to be completed by August 2025[8]. On April 8, 2025, the European Council and the European Parliament provisionally agreed on a regulation on preventing the loss of plastic pellets into the environment. Under the new rules, prevention of plastic pellet losses would be the main objective for operators and EU and non-EU carriers[9].

7. The IMO began addressing the issue of the transport of plastic pellets following the X-Press Pearl incident in 2021. Currently, maritime transport of plastic pellets is allowed in packaged form (‘big bags’) in containers. In March 2024, the Marine Environment Protection Committee (MEPC 81) approved MEPC.1/Circ.909 *Recommendations for the carriage of plastic pellets by sea in freight containers*. The recommendations address, among other things, identification of the goods as plastic pellets, good quality packaging and proper stowing, under deck or inboard in sheltered areas of exposed decks. However, these recommendations are of a voluntary and non-binding nature.

8. At consecutive sessions of the Sub-Committee on Pollution Prevention and Response (PPR), the following options were discussed for introduction of mandatory measures for the transport of plastic pellets[10]:

(1) an amendment to the appendix to MARPOL Annex III that would recognize plastic pellets as a “harmful substance”;

(2) a new chapter in MARPOL Annex III that would prescribe requirements for the transport of plastic pellets in freight containers without classifying the cargo as a harmful substance/dangerous goods; and

(3) assignment of an individual UN number (Class 9) for plastic pellets transported at sea in freight containers.

9. The countries represented in IMO are divided on the best approach for mandatory instruments. Germany and the Kingdom of the Netherlands believe that the assignment of an individual UN number (option (3) above) would provide the most effective way to regulate the transport of plastic pellets in freight containers considering its already existing and robust enforcement framework.

10. Assignment of an individual UN number would enable regulation of the maritime transport of plastic pellets through the IMDG Code. Using the IMDG Code for the regulation

[7] PPR 9/15/4

[8] https://www.unep.org/inc-plastic-pollution

[9] https://www.consilium.europa.eu/en/press/press-releases/2025/04/08/plastic-pellet-losses-council-and-parliament-agree-on-new-rules-to-reduce-microplastic-pollution/

[10] PPR 11/WP.1/Rev.1; PPR 12/WP.1/Rev.1; PPR 11/13/3

of the transport of plastic pellets avoids the need to introduce additional (inter)national legislation and enforcement specifically for plastic pellets (for instance, including provisions in the MARPOL convention itself), which would result in delay and increased costs. Using the existing IMDG Code framework would also be beneficial to the shipping industry as a widely known and effectively used instrument.

11. Plastic pellets do not currently meet the criteria for classification as "environmentally hazardous substance" (or any other class or division) according to the *Model Regulations*. However, the *Model Regulations* do contain, in Class 9, several dangerous goods not meeting the definitions of a hazard class. Some examples are *Substances which, on inhalation as fine dust, may endanger health* (e.g. UN 2212 ASBESTOS, AMPHIBOLE); *Substances and articles which, in the event of fire, may form dioxins* (e.g. UN 2315 POLYCHLORINATED BIPHENYLS, LIQUID) and *Other substances or articles presenting a danger during transport, but not meeting the definitions of another class* (e.g. UN 1845 CARBON DIOXIDE, SOLID (DRY ICE), UN 2216 FISH MEAL (FISH SCRAP), STABILIZED, UN 2807 MAGNETIZED MATERIAL). Similarly, a new UN number for plastic pellets could be added to Class 9.

12. Furthermore, assignment of special provision 117 ("Subject to these regulations only when transported by sea") to this new UN number, would restrict the application to maritime transport only. Packing instructions would then be assigned as considered appropriate by IMO Sub-Committees. For comparison, special provision 117 is currently assigned to UN 3496 BATTERIES, NICKEL-METAL HYDRIDE, and packing instructions are assigned at the IMO level.

13. Specific details, such as definitions and criteria, would need further consideration.

III. Discussion

14. The Sub-Committee is invited to consider whether the introduction of a new UN number is an appropriate means to regulate the maritime transport of plastic pellets mandatorily.

IV. Sustainable Development Goals

15. By promoting the reduction of the environmental risks associated with the carriage of plastic pellets at sea, this proposal contributes to Sustainable Development Goal 14: *Conserve and sustainably use the oceans, seas and marine resources for sustainable development*.