

Plastic nurdle spills. **Contact: tonje.castberg@gard.no**

The liability for nurdle spills from ships may not be very clearly defined in legislation. For most ship source pollution, maritime law regulates the liability and often also insurance. In recent nurdle spills it has been debated whether the nurdle spills should be considered littering or acute pollution and that may influence how cleanup operations are organized as well as who is the liable party, it could be the owner of the nurdles, the shipper, or the ship owner or operator under domestic pollution regulations.

Plastic nurdles are little beads of about 5mm size that are used as raw material for plastic products. There are a few producers of these nurdles who export world-wide to a large variety of plastic product producers. About 300 million tons are produced annually and nurdles enter the marine environment from manufacturing sites, and leakage during land- and sea transportation. These nurdles are widely transported around the world, typically on container ships.

We have seen in recent years several ship accidents where considerable amounts of nurdles have spilled to sea. The behaviors of the nurdles when lost depend on their size and density, and predictions of where they will strand are difficult to make. Models used for oil spills need modifications to be adapted to nurdle spills. The clean-up operations are notoriously difficult, expensive and time consuming, and equipment available for oil spills is not suitable for collection of plastic nurdles. Nurdles will be hidden in vegetation and sand, and be remobilized with tides and flooding. Cleaned sites may be recontaminated and with time nurdles can spread over very long distances.

There is a substantial background presence of nurdles on the shores, proving that this kind of pollution has been happening for a long time with nurdles accumulating in the marine environment. Nurdle hunts have been organized world-wide, and the findings are alarming. Nurdles are found almost on any shore searched. The environmental impact of nurdles will depend on the composition of the plastic from mere physical impact to some toxic effect. The longevity of these nurdles in the environment and their accumulation from spills over many years is now apparent in the diversity of nurdles found upon the organized nurdle hunts.

The recent incidents in South Africa and Sri Lanka have increased the general awareness of the problem this pollution causes. The nurdles are typically transported in containers on ships and practices to prevent spills from lost containers or ship casualties are discussed. The shippers have the key to safer packing and less exposed stowage on vessels. Ship owners do not get detailed information about the contents of containers they carry when it is non-DG and are not in position to take needed precautions. Sri Lanka has now submitted a proposal to the IMO to have this kind of cargo defined as DG, Norway has submitted a similar proposal in order to enable dedicated stowage on board and regulate packing requirements.

Since nurdles are not defined as dangerous goods they would not fall under the HNS convention either, if it had been in force. Liability for nurdle spills from ships follow general domestic pollution regulations rather than provisions in maritime law and channeling of liability to the owner of the ship is not as clear as with convention regulated pollution from ships. This can cause some confusion and inconsistent reactions when a spill occurs. Upon a spill in Norway in 2020 response was delayed as authorities first considered it littering and not acute pollution, and therefore did not mobilise the national contingency resources in the initial phase.

There is no international regulation specific to nurdle pollution. The Nairobi International convention on removal of wrecks, 2007 which came into force in 2015 requires that sunken or

stranded vessels and any object that is or has been aboard the ship to be removed if the vessel or object threatens the marine environment or damage to the coastline or related interests of one or more states. Related interests include fisheries and tourist industries. Registered owners are required to have insurance that covers the cost of removal. The Nairobi Convention applies to both containers and cargo that are aboard or have been aboard the ship so includes removal of nurdles as part of the wreck removal. The convention also applies where containers are lost overboard due to stack collapse. Is this convention intended to cover plastic nurdles spilled from ships, or will legislation like the EU Environmental crime directive, or similar, apply depending on the country affected?

The full specter of ship source pollution has been thought to be covered through the bunkers, CLC, wreck removal and HNS conventions. It is however clear that cargo like plastic nurdles may slip through this grid of conventions, and there is a gap in legislation. Such lack of harmonized regulation causes uncertainty and unpredictable practices in the response to spills and compensation for costs.