NGO SHIPBREAKING PLATFORM

Fact sheet: Why end-of-life vessels are toxic

End-of-life ships can contain various amounts of toxic materials in their structure, which need to be properly located, identified, removed and disposed of. Because of the lack of proper waste reception facilities, training for workers, and cooperation from ship owners to provide the necessary documentation, toxic waste from shipbreaking contaminates the coastal areas and exposes the workers to hazardous substances. Also the local population is at risk when ship parts are sold on the second-hand market.

Asbestos is one of the most common and most hazardous materials found onboard ships. Because of its resistance to heat, asbestos can be found on engine casings, in fire compartments, inside fireproof doors, as sheeting of electrical cables, in sandwich panels in corridors, around boiler casings or exhaust pipes, or in the form of calcium silicate shells, asbestos rope and asbestos fabric, in friction materials such as brake pads in lift engines or purifiers, and brake linings in cranes and winches. In South Asian shipbreaking yards, asbestos is removed by hand, with no proper masks, and mostly in the open air. When shipbreaking workers breathe in asbestos fibers, they can contract fatal diseases such as mesothelioma, asbestosis, and lung cancer. Asbestos fibers also cling to the workers' clothes and can contaminate other workers who live in the same shacks. Surrounding communities can be exposed to the asbestos that is hastily dumped in landfills.

Workers are exposed to toxic fumes that can be carcinogenic when they cut steel with blow torches and burn waste and cables. When burned, liquid and solid polychlorinated biphenyls (PCBs) create some of the most hazardous substances known: dioxins and furans. While it is relatively easy to remove liquid PCBs prior to exporting the ship for breaking, the use of solid PCBs in insulation, paints, decking, gaskets, wires and cables is extensive. Plastics and constituents of plastics might produce hazardous fumes during burning. It is still dangerous for workers to be around the cut ship parts even after the torches are turned off, as paints continue to smolder. Tributyltin (TBT), an aggressive biocide, has been used in anti-fouling paints since the 1970s because it prevents micro-organisms from accumulating on the ships' hulls. It is considered as one of the most toxic compounds in aquatic ecosystems. TBT is responsible for the disruption of the endocrine system of marine shellfish and can damage human health even in small doses. Now banned, it can still be found on older ships. The combustion of oil can lead to the formation of polycyclic aromatic hydrocarbons (PAHs) that accumulate in sediments or tissues of life forms.

Lead, cadmium, zinc, and copper can be found in paints, coating, insulation, batteries and electrical compounds, and mercury can be found in thermometers, electrical switches, level switches and light fittings. Mercury taken at high dosage (such as through a diet based on fish) can deeply harm the nervous system. Long-term exposure to lead, even to low levels, can cause irreversible damage for example to the nervous system and can impair hearing, vision and muscle coordination.

Other health and pollution risks come from the release into the ocean of bilge water. Located in the lowest part of the ship's hull, bilge water can release oil, cargo residues, inorganic salts, arsenic, copper, chromium, lead and mercury to the sea, when pumped out directly into the ocean. Similarly, organic pollution coming from sewage can cause serious health risks for workers if they breathe it in.