



Biodegradable Plastic

Large amounts of plastic waste aboard ships must be stored onboard for long periods until the ship makes port. In the future, a new type of plastic that breaks down in seawater may make it safe to toss plastic waste overboard, freeing up valuable ship storage space, according to scientists.

Biodegradable plastics could replace plastics that are used to make stretch wrap for cargo items, food containers, and other items used at sea, say researchers. “We’re moving toward making plastics more sustainable, especially those that are used at sea”.

Ordinary plastics can take years to break down. As a result, byproducts that are harmful to the environment and toxic to marine organisms make their disposal at sea dangerous. The new plastics break down in as few as 20 days and result in natural byproducts, say scientists.

The new plastics contain a type of polyurethane that is used in surgical stitches. Through variations in the make-up of the plastic, the researchers have achieved a wide range of properties ranging from soft, rubber-like plastics to hard, rigid structures, depending on their intended use.

When exposed to seawater, the new plastics break down into nontoxic products, according to the scientists. Depending on the type of plastic, these products may include water, carbon dioxide, and other compounds, all of which can be found in nature. Because the new plastics are denser than saltwater, they sink instead of float. That could prevent them from washing up on shore and polluting beaches.

The plastics are now being tested by the U.S. Army in the Gulf of Mexico. The researchers say that the plastics are not yet ready to be sold in stores. More studies are needed to make plastics for various ocean conditions, including changes in temperature, humidity and seawater. There are also legal issues, since international law forbids disposal of plastics at sea.

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