

<b>TARIKH</b>	12 JUN 2025 (KHAMIS)	<b>SURATKHABAR</b>	BH / UM / <b>NST</b> / TS / HM / KOSMO
<b>TAJUK ARTIKEL</b>	NEW PLASTIC DISSOLVES IN SEAWATER		
<b>M/S</b>	13 (LIFE & TIMES)	<b>KATA KUNCI</b>	ENVIRONMENT
<b>BIDANG</b>	SCIENCE AND TECHNOLOGY		

## New plastic dissolves in seawater

A TEAM of Japanese researchers has developed a new type of plastic that is strong, transparent and, above all, completely biodegradable, capable of dissolving in seawater in just a few hours. This is a major breakthrough at a time when marine plastic pollution is a major issue.

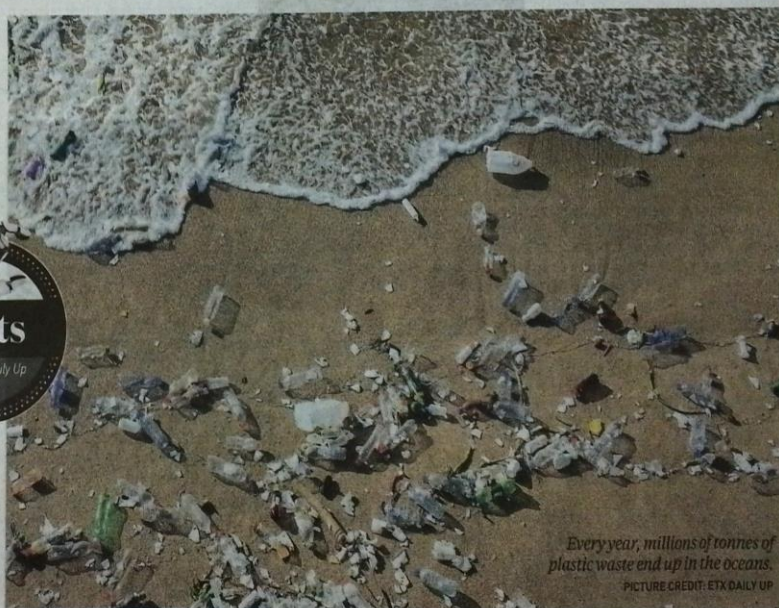
This new plastic is made from ionic monomers commonly used in food processing, such as sodium hexametaphosphate and guanidinium sulfate. These ionic monomers are small molecules with an electric charge that bind together to form polymers with specific properties such as salt sensitivity or conductivity. The result is also non-toxic, non-flammable and does not release carbon dioxide when it decomposes.

In seawater, the salt bonds responsible for the material's cohesion quickly dissolve, causing complete disintegration within a few hours at most. Unlike conventional plastics, this new material does not generate any microplastics, and its components are largely recyclable. In fact, after dissolving the new plastic in salt water, researchers

were able to recover 91 per cent of the hexametaphosphate and 82 per cent of the guanidinium in powder form. And that's not all: on land, the plastic degrades in less than 10 days, releasing essential nutrients such as phosphorus and nitrogen, thereby helping to enrich the soil like a fertiliser!

On paper, this solution is revolutionary, especially since it is as strong as petroleum-based plastics. This means that one day, this type of plastic could be used for packaging and also as a material for 3D printing without ending up polluting the oceans or land.

The arrival of such a plastic on the market could be one of the solutions to marine plastic pollution, given that millions of tonnes of it end up in the oceans every year. This new material, which is potentially compostable and circular, could therefore represent an innovative solution to reduce this threat, all while offering similar performance to conventional plastics.



*Every year, millions of tonnes of plastic waste end up in the oceans.*  
PICTURE CREDIT: ETX DAILY UP

**DISEDIAKAN  
OLEH**

**1-PN NOR SURIANI BINTI MOHD ZIN (S10), BPM**