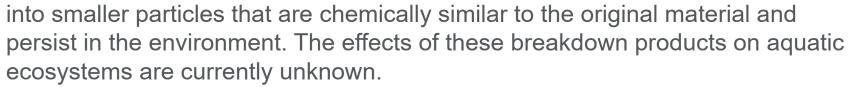


Transforming plastic with sunlight

Read the full article at rsc.li/3Fltb3J

Sunlight can chemically breakdown plastics into tens of thousands of new compounds in just weeks and many of these dissolve in water. The discovery dispels the theory that sunlight exposure simply physically fragments plastics



By comparing the breakdown under sunlight of different single-use poly(ethylene) bags and pure poly(ethylene) film, it was discovered that the bags produced between 5000 and 15,000 compounds under sunlight exposure, compared with about 9000 with the pure polyethylene. This shows that the composition of the plastic and its additives influences both how fast it breaks down and what it breaks down into.







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into smaller particles that are chemically similar to the original material and persist in the environment. The effects of these breakdown products on aquatic ecosystems are currently unknown.

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- 1. What monomer forms the polymer poly(ethylene)?
- 2. Suggest environmental problems of single use plastics.
- 3. Suggest how the sunlight breaks down the poly(ethylene).



