# New Method to Label and Track Nano-particles Could Improve Our Understanding of Plastic Pollution

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A ground-breaking method to label and track manufactured nano-plastics could signal a paradigm shift in how we understand and care for environments, finds a new study.

Nano-plastics are particles of at least one dimension below one µm. While there has been growing awareness of the dangers of visible plastic pollution to marine life, nano-plastics are thought to be even more dangerous as unseen, smaller animals and fish can ingest them.

Nano-plastics are suspected of being released into the environment directly by commercial products and by the breakdown of larger pieces of plastic litter.

In a study published by the journal Communications Materials, researchers from the University of Surrey detail a new one-step polymerization method to label nano-polystyrene directly on the carbon backbone of plastic.  The new simple method uses 14C-styrene and requires minimal reagents and equipment to create nano-particles in a wide range of sizes for use in simulated lab environments.

The team has used their new method to produce and investigate the behaviour of nano-plastics at low concentrations in a variety of scenarios – including in bivalve mollusc.

Dr Maya Al Sid Cheikh, co-author of the study and Lecturer in Analytical Chemistry at the University of Surrey, said:

“The truth is that the scientific community knows little about the effects and behaviour of nano-plastics in our environment because it’s extraordinarily difficult to detect, track and measure such minute particles.

“Our new, simple method is a step in the right direction for correcting this knowledge gap as

it allows researchers to replicate scenarios in which commercially produced nano-particles have customarily gone unnoticed.”

Read the original article on University of Surrey.