Bottled Water Carries Risks

The study, recently published in Science of The Total Environment, highlights the ongoing problem of plastic pollution in the environment, which has led to the widespread presence of microplastics and nanoplastics when plastic products break down.

Researchers analyzed water samples from four treatment plants near Lake Erie, one of the five Great Lakes in North America, and six brands of bottled water, finding that some bottled water contained three times as many nanoplastic particles as the treated drinking water.

With the exception of one sample collected from a single brand of bottled water, all other bottled water samples contained more plastic than tap water.

"[The study finding] suggests one way to reduce exposure to micro and nanoplastics is to limit drinking bottled water," John Lenhart, a professor of environmental engineering at The Ohio State University, and an author of the study, told The Epoch Times. "Our sample size was limited, however, and thus I believe more analysis is required with different sources of treated and bottled water."

Scientific evidence increasingly indicates that microplastics (0.1 μm to 5 mm) and nanoplastics (less than 1 μm) pose significant risks to human health by infiltrating major organ systems and triggering cellular damage.

RELATED STORIES

Microplastics found in Human Bones may Accelerate Aging and Weaken Skeleton

As the incidence of fractures is projected to rise by 32 percent by 2050, scientists warn microplastics may be the culprit.

The tiny plastic particles contaminating our air, water, and food have now been found deep inside human bones—and they're a health concern, researchers warn in an analysis of 62 studies.

The review, published in the journal Osteoporosis International, found that microplastics and nanoplastics can go straight into our skeletons. Although there are no human studies indicating harm, risks of bone weakening and deformities have been shown in animal and cell studies. The findings come as the International Osteoporosis Foundation projects a 32 percent increase in osteoporosis-related fractures by 2050.

Health care efforts currently focus on reducing bone complications through exercise, diet, and medications, but the role of microplastics remains poorly understood.

You're Surrounded by Microplastics, but these Habits can help Reduce Exposure

Microplastics enter our homes and bodies in surprising ways, but small changes in how we cook, clean, and store our belongings can help lower our exposure.

Microplastics are the new fear in town — they're linked to numerous health risks, and we just cannot seem to get away from them.

"Plastic is everywhere," Richard Thompson, professor of marine biology at the University of Plymouth in the UK and the first scientist to coin the term microplastics, told The Epoch Times. "Microplastics are in the air we breathe, the water we drink, and the food we eat."

Most people spend much of their time indoors, where exposure to microplastics tends to be higher.

The researchers used a combination of high-resolution imaging and chemical identification tools, allowing them to detect and identify particles at very small sizes rather than grouping everything into the broader microplastics category.

It is thought that nanoplastics are more likely to be absorbed by cells when ingested or inhaled, Lenhart said, so investigating their presence in various environments, such as drinking water, is crucial for gaining better insight into their potential for cellular uptake.

The fact that his team could measure the concentration is highly relevant for future research, as it suggests that their methodology could be adopted by other researchers to evaluate the presence of nanoplastics in other samples.

Lenhart and his team did not evaluate the ability of water treatment systems to remove nanoplastics, he said.

“It is a topic that we are currently investigating.”

Highest Contamination came from Packaging

The researchers found that most plastics in bottled water came from the packaging itself, with more than half of the particles detected being nanoplastics.

The source of plastics in tap water remains unclear, with a greater variety of plastics detected, some of which may be used in packaging, clothing, and building materials.

Lenhart noted that the plastic concentrations observed were higher than anticipated, a finding he attributed to the inclusion of the nanoplastics in the measurement—something prior studies had largely overlooked.

“It is believed upon ingestion or inhalation that nanoplastics exhibit greater potential than microplastics to be taken up by cells,” he added. “Thus, understanding the presence of nanoplastics in different media, such as drinking water, provides important information to better help us understand the potential for such uptake.”

Understanding the composition of plastics in water could help improve treatment processes or develop new methods to remove these particles from water in the future, he said.

Mounting Evidence of Microplastics Harms

Although scientists are still learning about how microplastics affect human health, many believe their presence could be harmful over time.

Emerging research links them to oxidative stress, chronic inflammation, and increased risks of cardiovascular disease and metabolic issues. These tiny particles, found in organs such as the liver, lungs, and placenta, are associated with tissue damage, potential endocrine disruption, and changes in the gut microbiome.

Nanoplastics are more likely to pass through biological barriers in the body, such as the intestinal epithelium and blood-brain barrier, potentially causing health problems, including inflammation, an impaired immune system, deteriorated tissues, altered metabolic function, abnormal organ development, and cell damage.

“While we don’t really fully understand the human health risks associated with nanoplastic exposure, it’s still better to try and mitigate that risk because evidence indicates that they do cause problems, even if we’re not fully aware of what those are yet,” Megan Hart, the lead author of the study, said in a press release.



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Lee Zeldin, EPA administrator

Robert F. Kennedy Jr., Secretary of Health and Human Services

Microplastics in Water Supply Go Untested

EPA says it **lacks standardized methods to assess** levels of contamination.

BY DAVID A. PATTEN

THE TRUMP ADMINISTRATION is putting off a mandate that would force towns, counties, and cities nationwide to test for plastic contamination in municipal water supplies.

Over 150,000 public water systems are affected.

A proposed EPA rule would mean the water you pour from your tap will not be tested for microplastics — the millions of invisible bits of plastic associated with major health concerns.

In announcing its decision, the EPA cited the lack of accepted, standardized methods for testing for microplastic contaminants.

The administration has announced it is launching a massive research program to establish what testing methods would be most effective.

The EPA's July announcement came despite pressure from supporters of the administration's own Make America Healthy Again (MAHA) movement, as well as pleas for water supply monitoring from seven governors, 14 state attorneys general, and over 175 clean water groups.

Mary Grant, water policy director for the activist Food and Water Watch organization, blasted the EPA's proposed delay in testing as "disgraceful."

"The current research on microplastics has repeatedly shown how disastrous this crisis is," she said. "We need comprehensive monitoring data now to know how prevalent these contaminants are in our drinking water."

EPA assistant administrator Jess Kramer acknowledged that "Americans have concerns about unregulated chemicals in their drinking water," adding that "the Trump EPA is ensuring these concerns are addressed with gold standard science."

The ruling would mean microplastic levels in public drinking water — countless, invisible plastic particles

Human Body Easily Ingests 'Forever Particles'

It turns out Dustin Hoffman's character in the 1967 classic film *The Graduate* received wise advice: "Plastics! There's a great future in plastics!"

The omnipresence of plastics has skyrocketed ever since 1907, when Leo Baekeland invented Bakelite, an early synthetic plastic material used to make appliances, telephones, radios, and jewelry. During WWII, use of durable plastics exploded.

But the same properties that make plastics so useful have contributed to their near-universal presence in the environment.

Once released into the air and water, the particles seem to be there forever. Under regular exposure to friction, sunlight, and heat, plastics naturally break down into smaller pieces, ultimately shedding nanoparticles that are easily ingested into the human body.

Stanford researchers have estimated that up to 40 million metric tons of microplastics are shed into the environment annually. But from a consumer's perspective, the real concern is their presence in the human body — and what they do once they get there.

Adding to the health

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less than 5 millimeters long that are ingested or inhaled by every American daily — would not be tracked or monitored in water supplies the same way pesticides, forever chemicals, and heavy metals are.

SCRUTINIZING PLASTICS

Rich Hyde, attorney at Trial Tribe Injury Lawyers in Fort Worth, Texas, predicts microplastics will one day stand alongside tobacco for making a game-changing difference in regulatory policy.

"It's not a matter of if, but when," Hyde, who describes himself as a liberty-loving, right-leaning libertarian, says. "We just don't have enough science yet. We have the biomarkers, but the big fight is in showing causation."

After handling several liability cases involving exposure to toxins, Hyde has installed a reverse osmosis filter in his home and doesn't allow his children to drink bottled water.

He says the risks of constant exposure to microplastics in the human body are increasingly evident.

"How many people do you think have developed terminal illnesses or autoimmune disorders and they just thought that they drew the unlucky card?" he asks.

"What caused it? All of this stuff is caused by something — but they're just oblivious to it."

The omnipresence of microplastics in the human environment is well established.

They're used in water bottles, food containers, cups, utensils, and microwave-heated food dishware, to name only a few. They have been detected in the fatty plaque in coronary arteries, in human lungs, and even in human reproductive tissues.

Noting the alarming increases seen in colon cancer, autism, and Alzheimer's disease, Hyde thinks he knows why the EPA doesn't appear eager to regulate microplastics in municipal water supplies.

"For nearly a century," Hyde says, "these microplastics have been embedded in virtually every level of production of consumer products. You're talking about gutting America, you're talking gutting the economy, because it would be a logistics nightmare."

FOLLOWING SCIENCE

In April, the administration announced it would invest $144 million to research how best to measure microplastic levels, and how to safely remove them from the human body.

The new research program is being administered through the Advanced Research Projects Agency for Health under Health and Human Services (HHS).

Called the Systematic Targeting of MicroPlastics (STOMP), the initiative aims "to create the definitive toolbox for measuring, researching, and affordably removing microplastics and nano plastics in the human body," according to the HHS announcement.

In unveiling the program, Health Secretary Robert F. Kennedy Jr. said: "HHS is taking decisive action to confront microplastics as a growing threat to human health. Americans deserve clear answers about how microplastics in their bodies affect their health."

The mammoth study aims to develop a standardized clinical test to measure levels of microplastics in blood and organs. It will document how the particles travel through the human body, where they tend to migrate, as well as their toxicity. That research will also examine how to clear microplastics out of the human body safely.

The EPA also added microplastics to its Contaminant Candidate List, meaning they are now on track for future regulation under the Safe Drinking Water Act.

The administration's two-track strategy — launching a scientific study on the one hand while avoiding the addition of microplastics to the testing requirements for local water supplies on the other — appears designed to reassure the president's MAHA supporters while avoiding, for now, the massive technical, legal, and political fallout from spotlighting microplastic health concerns nationwide.

That said, it's drawn sharp criticism from environmental groups. □



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25,000 Toxins in Cup of Coffee

If you're reading this while enjoying your morning coffee, try not to gulp at what follows. It turns out that those handy to-go containers aren't exactly innocent bystanders when it comes to microplastic contamination. Far from it. They rely on an almost-invisible polyethylene lining to waterproof the interior paper. In 140-degree Fahrenheit water, that lining releases a flood of microplastics.

A 2021 study in the Journal of Hazardous Materials detected 25,000 micron-sized plastic particles in a single hot cup of coffee after just 15 minutes of exposure. Researchers worry that plastic then migrates throughout the body to cause systemic health problems. — *D.P.*

worries: the use of known carcinogens in plastics production, including paraffins, phenols, phthalates, and bisphenols.

According to the European Environment Agency, the average individual ingests or inhales between 70,000 and 120,000 microplastic particles annually.

In part, that reflects how susceptible plastics are to shedding microscopic particles that consumers then drink, swallow, or even inhale.

The potential impacts on infants, pregnant women, and the chronically ill are concerning.

Attorney Rich Hyde predicts that when the day of reckoning comes for the plastics industry, as he believes it surely must, it will ultimately arrive not at the hands of government regulators, but rather from citizens who sit on juries.

"We need that jury trial," says Hyde, "and we need to have that thought linger in the back of corporations' minds more often." — *D.P.*