

THE EARTH DAY



Microplastics
塑膠微粒

By Chu Li Chin

When plastics break down due to exposure to water, sun or other elements they can break into tiny pieces - so tiny, most of them cannot be seen with the naked eye. These small plastic fragments are now everywhere. When you drink water, eat fish or other seafood, or when you add salt to your meals, chances are you can also be ingesting tiny pieces of plastic.

當塑料因暴露於水，太陽或其他元素而分解時，它們會破碎成微小的碎片 - 很小，大部分都是肉眼看不到的。現在到處都是這些小塑膠碎片。當你喝水，吃魚或其他海鮮，或者當你在你的飯菜中加鹽時，你也可能會攝取微小的塑料碎片。

Those particles - called **microplastics** - are a contaminant which is now present in the oceans, water ways, the soil and even in the food that we eat. Once plastic enters the bloodstream of an organism it will never be processed out. The plastic, and the toxins it has absorbed will bioaccumulate as they travel up the food chain to a top predator, often a human..

那些顆粒 - 稱為塑膠微粒 - 是一種污染物，現在存在於海洋，水道，土壤中，甚至存在於我們食用的食物中。一旦塑料進入生物體的血液中，它就永遠不會被處理掉。它吸收的塑膠和毒素會隨著它們沿著食物鏈向頂部捕食者（通常是人類）傳遞而生物累積。

The entire cycle and movement of microplastics in the environment is not yet known, but research is currently underway to investigate this issue further, as reported by NOAA.

正如NOAA報導的那樣，環境中塑膠微粒的整個循環和運動尚不清楚，但目前正在進行研究以進一步研究這一問題。

Some microplastics start out as large plastic pieces, slowly eroded by water or exposure to the sun and the elements; others start off as microplastics specifically produced for certain uses.

一些塑膠微粒從大塑膠片開始，被水慢慢侵蝕或暴露在陽光和元素之下；其他人則從專門為某些用途生產的塑膠微粒開始。



Some are **microbeads**, created for use in **skin care products**. They are very tiny pieces of manufactured polyethylene plastic that are added as exfoliants to health and beauty products, such as some **cleansers, toothpaste, facewash, soap and shower cream**, says the Royal Society of Chemistry of Great Britain.

一些是**微珠**，用於**護膚**產品。

英國皇家化學學會表示，它們是非常微小的人造聚乙烯塑料片，作為去角質添加到健康和美容產品中，如一些**清潔劑，牙膏，洗面乳，肥皂和沐浴乳**。



Others originate from plastic-based fabrics such as polyester and nylon that shed plastic fibers when washed.

其他來自塑料基織物，
例如聚酯和尼龍，在洗滌時會脫落塑料纖維。



Several studies have shown synthetic fibers to make up the lion's share of microplastics found in oceans, rivers and lakes, and clothes made from synthetics (polyester, acrylic, nylon, and so on) are widely implicated as the source of that pollution. In addition, some industrial processes can produce microplastics that can contribute to the problem when mishandled.

一些研究表明，合成纖維佔海洋，河流和湖泊中發現的大部分微塑料，並且由合成纖維（聚酯，丙烯酸，尼龍等）製成的衣服被廣泛認為是污染的來源。此外，一些工業過程可以生產微塑料，當處理不當時可能會導致問題。



While there is some contention over their size, most agree that to be considered a microplastic a particle should be less than 5 mm in diameter and have been found to evade filtration systems at water treatment plants, allowing them to be discharged directly into rivers, lagoons and the oceans.

雖然對它們的尺寸存在一些爭論，但大多數人認為被認為是塑膠微粒的直徑應小於5毫米，並且已被發現可以避開水處理廠的過濾系統，使它們可以直接排入河流，瀉湖和海洋。



Governments are paying attention and passing legislation to limit or eliminate pollution related to microbeads and companies are working to replace them or phase them out from their products and processes. In 2015, the US passed the Microbead-Free Waters Act, banning plastic microbeads in cosmetics and personal care products. The law has the support of the Personal Care Products Council, an industry group. Similar legislation has been approved by other countries.

各國政府正在關注和通過立法，以限制或消除與微珠有關的污染，公司正在努力取代或淘汰其產品。2015年，美國通過了“禁止微珠”法案，禁止化妝品中的塑料微珠和個人護理產品。該法律得到了行業組織個人護理產品委員會的支持。其他國家也批准了類似的立法。



As you can see, microplastics come from a variety of sources, including from larger plastic debris that breaks down into smaller and smaller pieces. Such litter should be controlled by better systems to collect, process and dispose of waste. You also might find it interesting to know that an important source of plastic pollution in the ocean is automobile tires.

正如您所看到的，塑膠微粒來自各種資源，包括較大的塑料碎片，分解成越來越小的碎片。這種垃圾應由更好的系統控制，以收集，處理和處理廢物。你也可能會發現，有趣的是，海洋中塑料污染的一個重要來源是汽車輪胎。



Since, "most plastic in the ocean is from beach plastics that break down and improper disposal of trash" says Dr. Joel Baker, Science Director of the Center for Urban Waters, if we can make a few behavioral changes we can severely limit plastic pollution.

因為，城市水域中心科學主任Joel Baker博士說“海洋中的大部分塑料來自海灘塑料，這些塑料會分解並且成為處理不當垃圾”，如果我們能夠做一些行為改變，我們可以嚴重限制塑料污染。



The good news concerning microplastics is that there are many things you can do about the problem.
關於塑膠微粒的好消息是，你可以對這個問題做很多事情。



WHAT CAN YOU DO?

你可以做什麼？



- Prevent the creation of microplastics by being careful not to toss plastic products in water ways, beaches or open spaces.
- 小心不要在水道，海灘或開放空間內扔塑膠製品，以防止產生塑膠。
- Pick up trash –especially plastics– whenever you see it, especially in ponds, streams, rivers, beaches, when possible
- 如果可能的話 撿垃圾 - 特別是塑料 - 只要你看到它，特別是在池塘，溪流，河流，海灘。
- Participate in organized clean-up activities as much as you can.
- 盡可能多地參加有組織的清理活動。



- Look up products on the Internet and choose not to buy products containing microbeads. Choose products that have natural exfoliators instead.

- 在網路上查找產品，選擇不購買含有微珠的產品。選擇含有天然去角質劑的產品。

- Consider changing the way you wash your clothing to reduce the number of microfibers that are released. There are also bags and other devices you can use in your washing machine to collect the fibers.

- 考慮改變洗衣方式，以減少釋放的微纖維數量。您還可以在洗衣機中使用袋子和其他設備來收集纖維。

- Consider purchasing items made of natural fibers, when possible.

- 盡可能考慮購買由天然纖維製成的物品。

- Do not wash off lint from your dryer down the drain. Dispose of it on the trash.

- 切勿將乾燥器中的棉絨洗掉。
把它丟棄在垃圾上。

