



## Microplastics Factsheet

### 1907



Bakelite, the world's **first fully synthetic plastic**, is invented in 1907, forever changing the way we live

### 1955



'Life' magazine cover from 1955 celebrates a growing consumer culture of **"Throwaway Living"**

### 2020



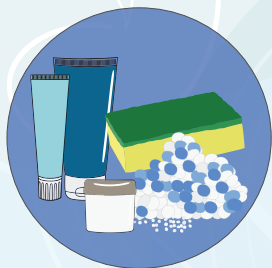
Plastic usage on a **global scale** has created **plastic pollution** all around the world.

### 2022+

The **United Nations Environment Assembly (UNEA)** passed a resolution on a **global plastic treaty** entitled **'End Plastic Pollution: Towards a Legally Binding Instrument'** in March 2022. Negotiations are underway and will finalise by **2024**.

## What are Microplastics?

**Microplastics** are **synthetic particles** between **1 µm - 5000 µm\*** in diameter (0.001 mm - 5 mm) which originate from a **variety of sources** and typically **end up in the ocean or on beaches**. **Plastic debris** and **microplastic particles** can now be found across **all ocean basins, ecosystems, habitats, and food webs** on earth. \*µm = micrometre



### Nurdles & Intentionally Added Microplastics

**Nurdles** are produced and **used commercially in the plastics industry** as the **source material for making products**. These **small particles** are **melted down for use** in a multitude of products, from **cosmetics** to **cleaning products** and **food packaging** to **Christmas trees!**

Some consumer products contain **intentionally added microplastics and microbeads**, although these are now being **phased out gradually**, for example in the **cosmetics industry**. These types of microplastics can be **released directly into the environment** during product use or by **accidental release**.



### Unintentionally Formed Microplastics

These are microplastics that occur from the **break down of larger plastic fragments**, such as **water bottles, fabric fibres, tyres** and **plastic bags**. This breakdown is caused by **exposure to environmental factors**, mainly ultraviolet light from the **sun**, the ocean's **waves**, and the **wind**.



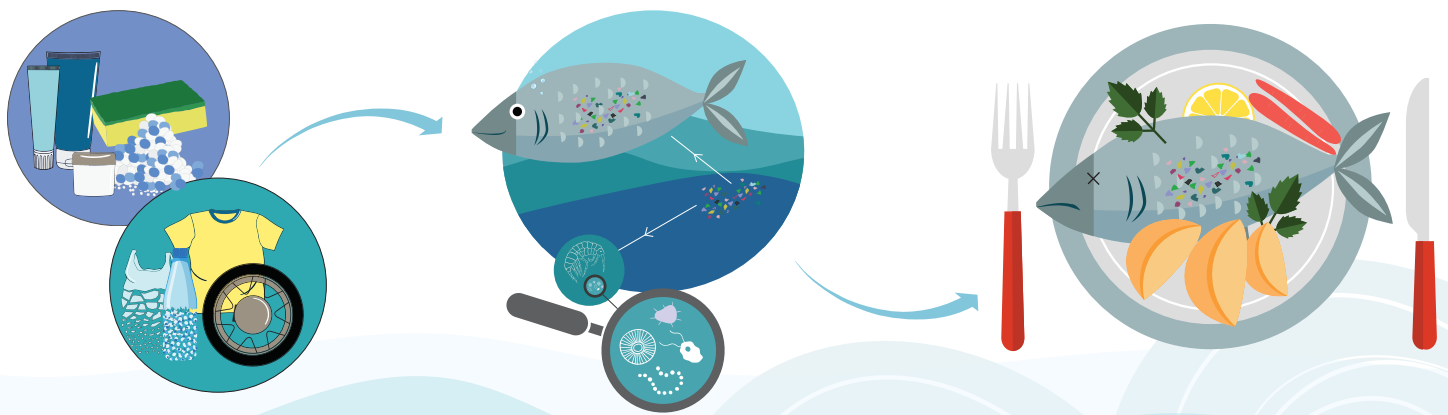
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**Microplastics** can also be a **source of chemicals**. Plastics contain **additives**, such as **UV absorbers** or **plasticizers** (to make the material softer and more flexible), which are **applied during the manufacturing process**. These chemicals can **make their way into the environment**. Given the **huge amount** and small size of microplastics in our natural environments they are **extremely difficult to remove**.

### How do microplastics enter the food chain?

**Microplastics** can **enter the marine food chain** by being **eaten by microscopic organisms such as plankton**, which are then eaten by **fish**. They can also be **ingested directly by fish**, as well as by molluscs such as **mussels** and **oysters**. Most microplastics **pass quickly through the digestive system of organisms** and **leave with their poo!** The **very smallest** microplastics might **transfer into organisms**.

Plankton and fish are **lower and higher trophic organisms**, respectively. A **trophic level** is the **level, or position**, that an **organism occupies in the food chain**.



**Plastic pollution is everyone's business!**

Check out [ocean.mt/2023/03/02/andromeda](https://ocean.mt/2023/03/02/andromeda) for more information and resources!



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