

# Tec professor creates bottle 25 X more biodegradable than normal PET



Fernando González González, [Tec de Monterrey](#)'s director of admissions for the Saltillo campus, has set up a bottled water company whose **packaging** is capable of degrading **25 times faster** than a **conventional PET bottle**.

The brand's name is **Maka**, which means **"to give" in Nahuatl**, and its bottles are made with an **organic additive** that reduces the oxidation time of plastic to between **two and six years**.

*"A normal plastic bottle can take up to 150 years to disintegrate. We're the only water brand in the country that uses this additive to reduce degradation time,"* he said.

Empaque biodegradable width="900" loading="lazy">

## 25 times faster

*"Garbage dumps have a high concentration of bacteria. **When this additive is included, the PET molecules expand, allowing the entry of bacteria to accelerate the decomposition process,**"* he explained.

He also pointed out that Mexico **ranks second in the consumption of plastic containers**, which is why he saw an opportunity to reduce the amount of this material in the **environment**.

Creador de Maka tomando agua width="900" loading="lazy">

## International award-winning design

According to Fernando, the most complex part of creating their product was designing the packaging, since they decided to make a mold from scratch that would set them apart from other brands.

***“We went through about a year of trial-and-error in manufacturing the mold to get the design we wanted,”*** he said.

In 2019, Maka won **two international awards** for the design of its bottles, competing against food and beverage brands from around the world:

- **First place for Best water bottle design at the [Dieline Awards](#).**
- **Second place for Best Packaging Design at the [Latin American Design Awards](#).**

Diseño Maka width="900" loading="lazy">

## Mexican art on its bottles

The brand's image incorporates **Mexican elements** such as the Mexican trogon bird, whose feather colors match those of the national flag.

In addition, it includes colors and designs inspired by Mexican muralism, specifically that of **Carlos Mérida**, a Guatemalan painter and sculptor who became a naturalized Mexican.

***“We wanted to capture Mexican art, which is why we’re constantly changing the colors and figures on the back of the container,”*** he said.

<https://www.instagram.com/p/CDzP767HY4M/>

## Hand-labeled product with social awareness

***“While the entire market is used to cylindrical bottles, Maka created a rectangular design that couldn’t be labeled in regular machines,”*** he added.

The professor stated that the brand works alongside the movement **Hecho con capacidad** (Made with Ability), which supports people with intellectual disabilities to prepare for work and helps place them in the labor sector.

***“Half of our production line is made up of people from this association, and they label the bottles by hand,”*** he added.

Maka currently distributes its products in Mexican states such as Coahuila, Nuevo León, Baja California Sur, Querétaro, Guanajuato, and Sonora.

According to the [United Nations](#), **an estimated one million plastic bottles are bought every minute.**

Almost a third of all plastic packaging exits the sewer systems and **8 million tons end up in the oceans** each year, threatening marine life.

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