



Cooking oil from a local McDonald's can be made into a high-resolution, biodegradable 3D-printing resin | Photo source Joiarib Morales Uc on Unsplash

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## BIODEGRADABLE 3D-PRINTER RESIN MADE FROM USED DEEP FRYER OIL

 FOOD & DRINK

### The production method is cheaper than that of most plastics and the resulting product is biodegradable

**Spotted:** Researchers at the University of Toronto have found a way to repurpose used cooking oil from a local McDonald's into a high-resolution, biodegradable 3D-printing resin.

Conventional resins derived from fossil fuels require multiple steps to produce and can cost over €486 per litre. In contrast, all but one of the chemicals used in this new method can be recycled. As a result, the resin can be made for as low as €278 per tonne, which is cheaper than most plastics.

In addition, unlike conventional 3D-printing resins, the resulting plastic products are biodegradable. The researchers found that printed objects made with their resin lost 20 per cent of their weight after two weeks.

"The reasons plastics are a problem is because nature hasn't evolved to handle human-made chemicals," says [Andre Simpson](#), a professor at U of T, who developed the method.

The resin also dries solid in sunlight, meaning it could be used on the go at work sites.

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27th February 2020

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## **Takeaway:**

Used cooking oil is the cause of many environmental issues, including clogged sewage. There are various commercial uses for leftover cooking oil, but until now, recycling it into high-value commodities, such as a 3D-printing resin, has been more difficult. In addition to reducing the environmental toll of waste cooking oil, the method is a double winner, opening up the possibilities to transition to eco-friendlier plastic alternatives.