

1 Article : Kirin Unveils New and Faster Recycling Method for Plastic Bottles

Directions: Read the following article aloud.

Kirin announced a new technology for simpler and speedier recycling of plastic bottles that will enable the use of more recycled material in manufacturing.

Kirin Central Research Institute, a subsidiary of Kirin Holdings, announced a new technology in recycling PET bottles on December 15. The new development reduces the time it takes to [break down](#) plastic material by about 90%. The technology is based on chemical recycling, where raw materials are broken down to the molecular level to recover chemical components. Kirin aims to [implement](#) the technology by 2030.

Conventional chemical recycling methods require high temperatures of several hundred degrees Celsius and high pressure to break down PET (polyethylene terephthalate), a raw material used in plastic bottles and synthetic fibers. Processing can take several hours.

With the new technology, a mixture of PET, an alkaline component, and alcohol at specific ratios enables the plastic to degrade at a low temperature in the 35 to 55 degrees Celsius range, and in a short time of around 15 minutes.

The research institute also reported a new development in the purification process after dissolution based on joint research with Waseda University. This new technology allows for a significant reduction in the use of the chemical substances that were previously essential.

Kirin has [set a goal](#) to use recycled resin for 50% of the domestic PET resin by the year 2027. [Along with](#) the introduction of this new technology, the company plans to address challenges in scaling up and continuous operation to [commercialize](#) the new processes. The company plans to seek new partners for this purpose. A spokesperson from the Kirin Central Research Institute explained, "We aim to create an environmentally-conscious society where resources circulate."

Source : Kirin Unveils New and Faster Recycling Method for Plastic Bottles
[JAPAN 2 Earth](#)



2 Key phrases and vocabulary

Directions: First repeat after your tutor and then read aloud by yourself.

1. break down 分解する、分析する、分類する

It's important to **break down** complex problems into smaller tasks for easier understanding.

2. implement (計画、政策などを) 実施する、実行する

The company plans to **implement** new policies to improve workplace efficiency.

3. set a goal 目標を設定する

To achieve success, it's essential to **set clear goals** and work towards them consistently.

4. along with ~とともに

I enjoy outdoor activities, **along with** spending time reading books.

5. commercialize 商品化する、商業化する

Researchers aim to **commercialize** their innovative discoveries for public benefit.

3 Questions

Directions: Read the questions aloud and answer them.

1. What did Kirin Central Research Institute announce on December 15?
2. How does the new technology affect the time it takes to break down plastic material?
3. What is the goal of Kirin?
4. Do you often buy plastic bottled drinks? Why/ Why not?
5. What do you think you can do to create "an environmentally-conscious society"?

4

日本語関連記事：

ペットボトルの分解時間を9割削減でキリンが新技術 令和12年の実用化目指す

キリン中央研究所は15日、ペットボトルなどのリサイクルにかかる分解時間を約9割削減する新技術を開発したと発表した。

キリンホールディングス（HD）傘下のキリン中央研究所は15日、ペットボトルなどのリサイクルにかかる分解時間を約9割削減する新技術を開発したと発表した。原料を分子レベルにまで分解してから化学原料を回収する「ケミカルリサイクル」技術によるもので、令和12（2030）年までの実用化を目指している。

従来、ペットボトルや合成繊維などの原料になるPET（ポリエチレンテレフタレート）を分解するには数百度という高い温度と高圧力が必要で、処理に数時間かかっていた。新しい技術ではPETとアルカリ成分、アルコールを一定割合で混ぜることにより35～55度の低温で、しかも15分程度の短時間で分解できる。

また、分解後の精製工程でも、これまで必要だった化学薬品を大幅に削減できる新技術を早稲田大との共同研究で開発したという。

キリンは9年までに国内のPET樹脂使用量の50%をリサイクル樹脂にする目標を掲げる。今回の新技術では大規模化や連続運転などの課題解消と実用化に向け、新たなパートナーを探す方針。キリン中央研の担当者は「環境に配慮しながら資源が循環し続ける社会を目指す」と話している。