

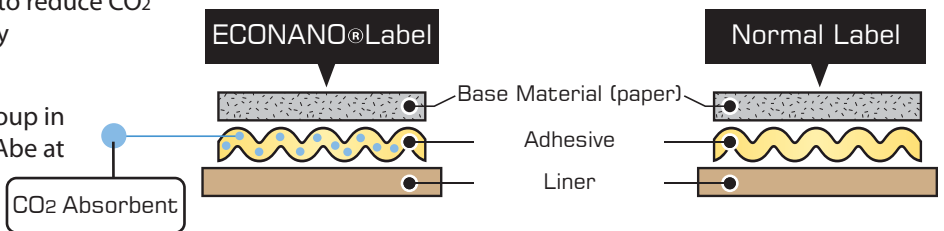
ECONANO® - The World's First CO₂ Reducing Label



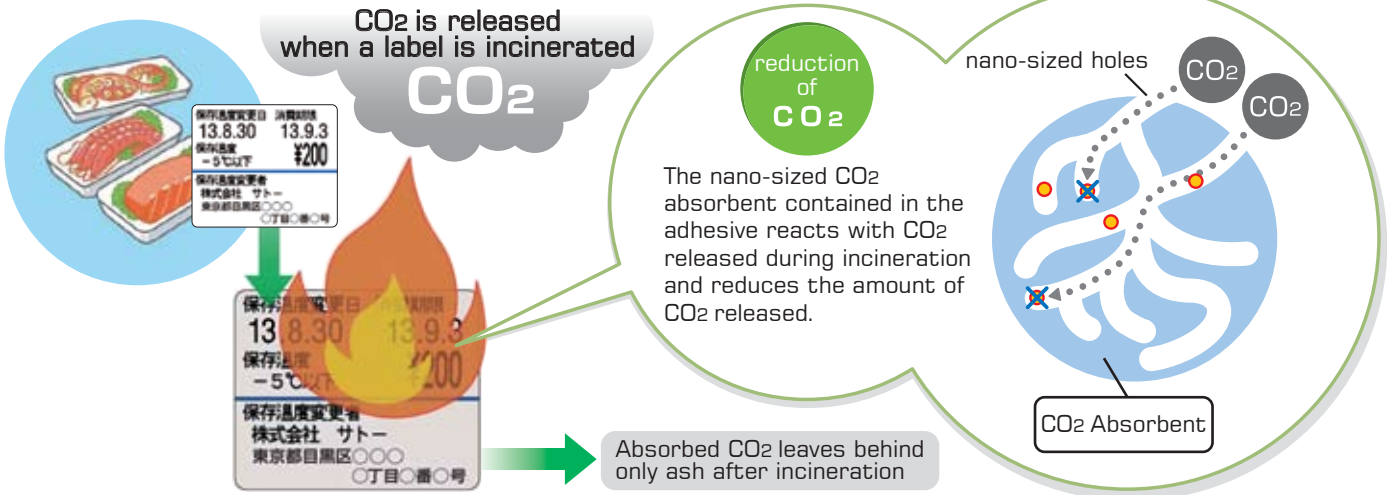
What are ECONANO® Labels?

The ECONANO® series are labels that use nano vesicle capsule (NVC) technology to add a CO₂ absorbent to the label's adhesive. This enables users to reduce CO₂ emissions at the point of incineration by approximately 20%.

ECONANO® was developed by SATO Group in collaboration with Professor Masahiko Abe at the Department of Science and Engineering, Tokyo University of Science, and the University's venture company, Acteiiive Corporation.



ECONANO® Labels - CO₂ Absorption System at Incineration



Upon incineration, CO₂ changes to other substances through chemical reaction and are not re-released into the atmosphere. Hence, ECONANO® labels are able to release 20% less CO₂ than standard labels when incinerated.

ECONANO® label material:

- Paper – Direct Thermal, Semi-Gloss ; Adhesive – Permanent, Removable
- Paper – Coated, Gloss ; Adhesive – Permanent

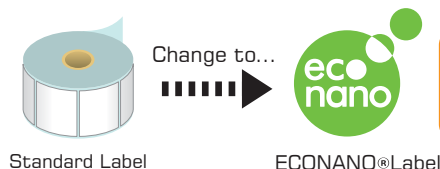
Note: Existing printer settings can be used upon switching to ECONANO® labels.

CO₂ Reduction Effect

<Label size> P50mm x W85mm

<Annual usage> 1 million

<Paper material> Semi-gloss



Reduction of CO₂ released at incineration **224kg**

The equivalent of saving **4,814 plastic bags**

※ Notes on this calculation can be found on the next page.

ECONANO® Linerless Labels - Reduce CO₂ Emission by 50%!



Linerless labels are pressure-sensitive labels that do not have a liner or backing paper. CO₂ absorbent is added into the adhesive of the linerless labels to create ECONANO® Linerless labels!

ECONANO® Linerless label material:

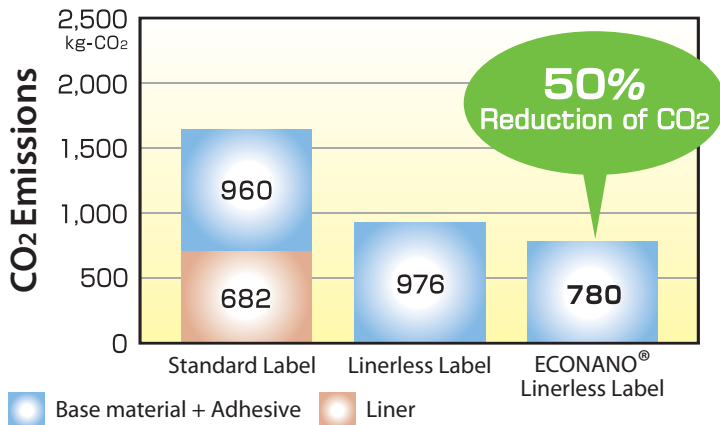
- Paper: Linerless Thermal
- Adhesive: Permanent, Removable

At SATO, environmental protection is very important to us – To produce environmentally-friendly linerless labels, backing paper is not used from the start of the production process.

How do ECONANO® Linerless Labels cut CO₂ emission by 50%?

CO₂ Reduction Effect

<Label size> P50mm x W85mm
<Annual usage> 1 million
<Paper material> Thermal Paper



Notes on calculation:

- 1) Calculation Range: Data from disposal stage of Standard label, Linerless label, ECONANO® Linerless label.
- 2) Incineration is the assumed method of waste disposal.
- 3) ECONANO® Label CO₂ emission reduction at incineration: 20% (TG/DTA Analysis)
- 4) Plastic bag CO₂ emissions: Data shows the amount of CO₂ released during manufacture, treatment and incineration (assumes 1 x plastic bag contains 10g of HDPE)

Sources:

- 1) Waste Incineration: The Investigative Commission for the Determination Method of Global Warming Gases Generation, Global Warming Control Division, Global Environment Bureau, Japanese Ministry of the Environment (Aug. 2002)
- 2) CO₂ Reduction Rate: CO₂ Absorbent Materials Manufacturer (TG/DTA Analysis)
- 3) Plastic Bag Conversion: Investigative Report on Inventory Data in Resin Treatment, Plastic Waste Management Institute (Jan. 2000)

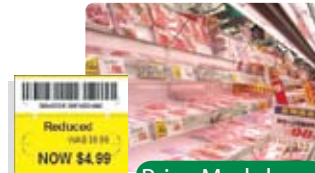
SATO Solutions



Logistics labels



Food labels



Price Markdown labels



Primary labels

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