

# SUMINOE

<http://suminoe.jp/english/index.html>



MAX. **77%**  
recycled!

## Resources for the future.

Can we create resources?

Suminoe created a new carpet tile by renewing no-longer-useful waste carpet tiles as resources utilizing its technical capabilities.

To carry over resources to the future through repeated recycling, Suminoe created a recycled carpet tile, ECOS.

Establishing a standard in the next generation  
—that's Suminoe's new challenge.

### Suminoe has built a system which reduces wastes and circulates resources at an unprecedented level.

In response to the raising awareness of environmental issues, such as exhaustion of fossil fuels including petroleum, ever-increasing industrial wastes, and global warming caused by greenhouse gases, what can Suminoe do as a pioneer in the industry? Answering to this question, Suminoe constructed the "ECOS Recycle System," which reduces wastes and circulates resources at an unprecedented level through the whole life cycle of carpet tiles.

Expanding the use of recycled carpet tiles at the same cost performance level as virgin tiles in the aim of realizing a "low-carbon society" and a "recycling-oriented society"

— that's a challenge of the first company in Japan that started production and selling of carpet tiles.



#### Achieved the world's top level recycled material ratio.

The ratio of recycled materials in most recycled carpet tiles in the market ranges from about 25 percent to a little over 40 percent.

ECOS has achieved the recycled material ratio of up to 77 percent\*, far superior to existing ones.

\* In the case of SG-300 and SG-400.



#### Controlling safety with selected raw materials for recycling.

There are not a few recycled materials whose origin is unknown. ECOS only uses waste carpet tiles as the materials recycled for the backing material to secure safety by controlling the origin of materials in a visible manner.



#### Reducing substantial amount of CO<sub>2</sub> emissions compared with existing products.

The "ECOS SG" series uses Suminoe's original polyester material SUMITRON® made from recycled PET bottles in the surface pile material. The series has reduced a higher amount of CO<sub>2</sub> emissions than Suminoe's existing products by 40 percent or more in the LCA assessment.

The product weight was also reduced by about 5 percent, resulting in lower transportation loads.

**LCA** Life Cycle Assessment. Cradle-to-grave assessment of a product. It assesses environmental loads associated with a product in a comprehensive and quantitative manner through its whole life cycle, from mining of raw materials to manufacturing, transportation, use, and disposal of the product.

#### Mizuho Information & Research Institute

Suminoe requested Mizuho Information & Research Institute, Inc. to conduct the LCA assessment. The company has accumulated the largest volume of data and expertise in the industry through collaboration with government offices and research institutes since the establishment of the LCA area. It also provides various solutions for supporting LCA activities to a number of leading companies, including Toyota Motor Corporation.



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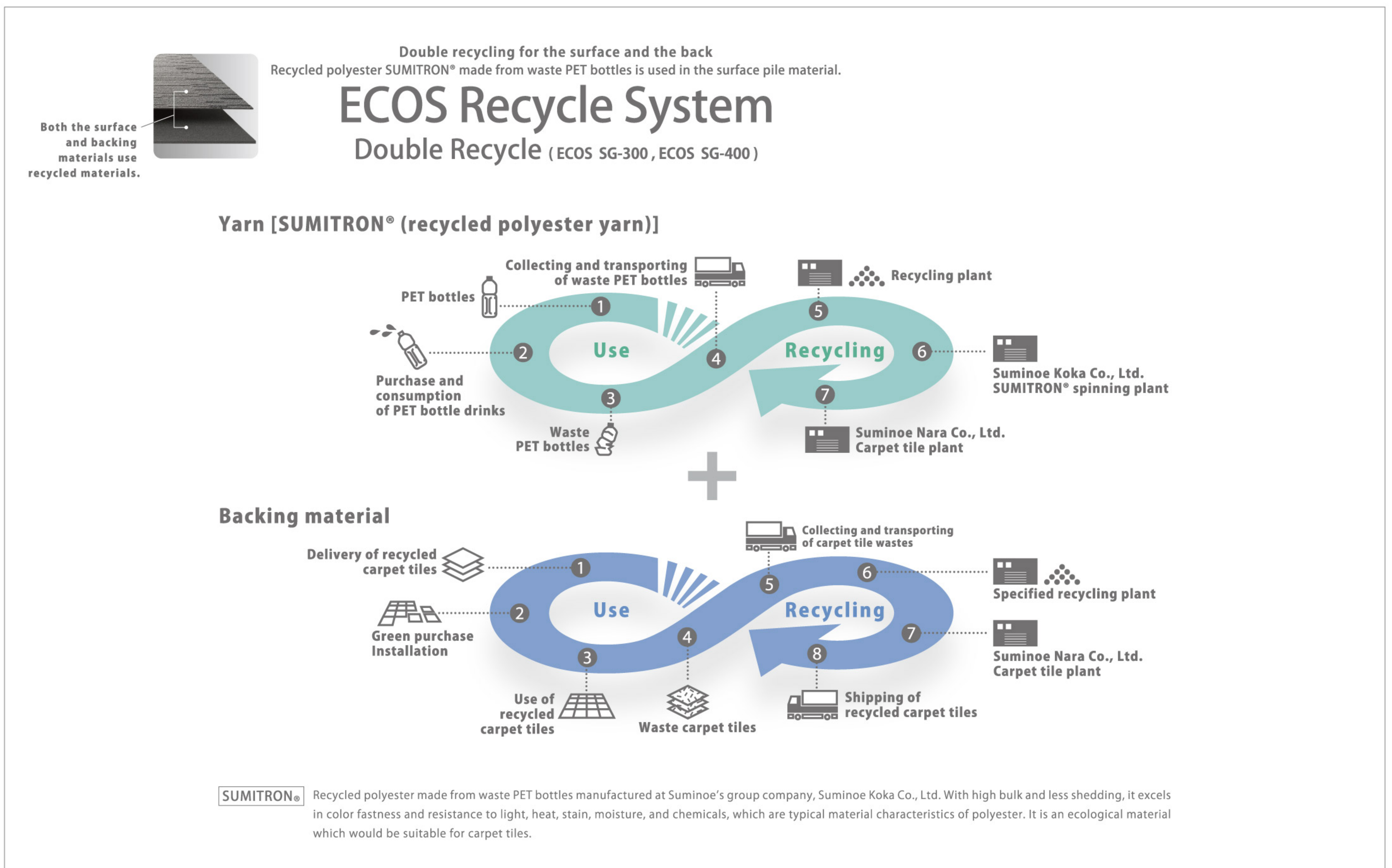
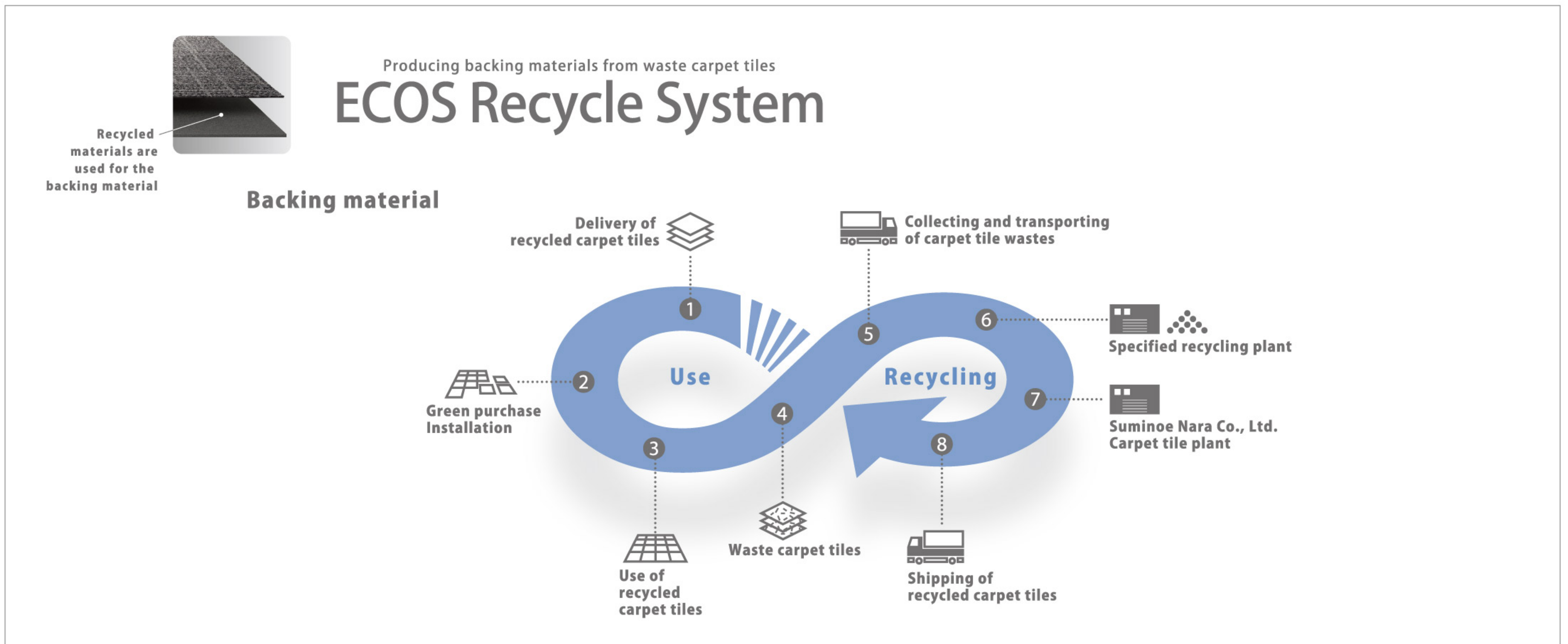


## ECOS Recycle System

Renewing waste carpet tiles as resources.

Collecting waste carpet tiles from the market and recycling them as backing materials – that's the **ECOS Recycle System**.

By renewing the production line, Suminoe has achieved the same cost performance level as virgin tiles while maintaining a high quality.





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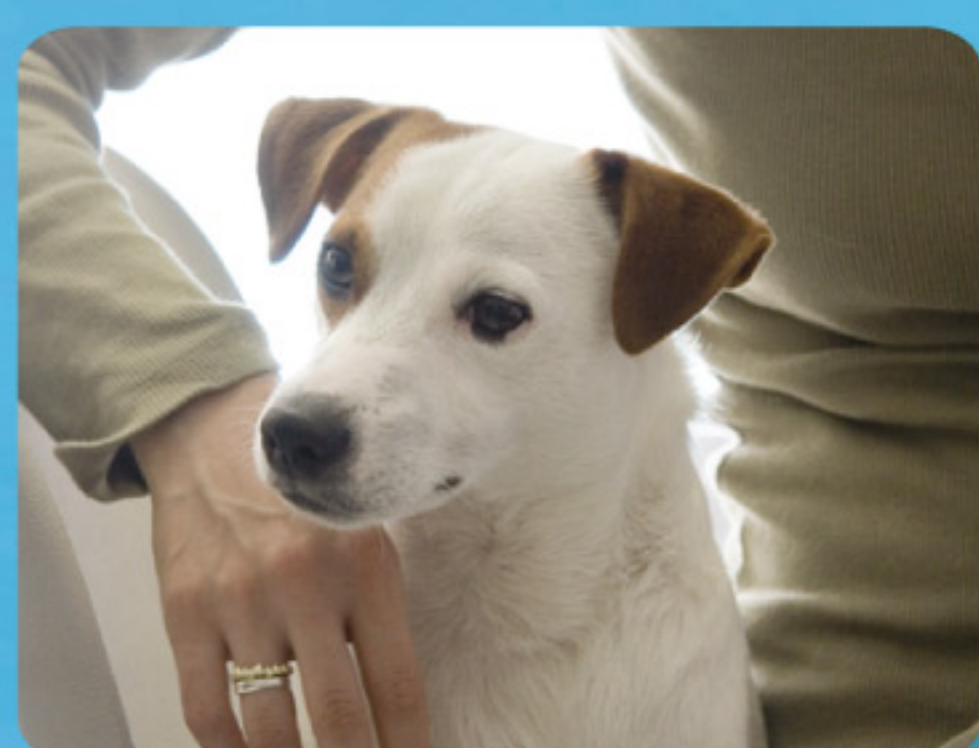
Air Cleaning!

TRIPLE FRESH II®

## 24-hour cycle deodorizing without consuming any energy

Triple Fresh II® is an ecological deodorizing processing without using any light or electricity. It decomposes formaldehyde that causes sick building syndrome, smoking odor, pet odor, garbage odor, and other living odors into non-harmful substances such as water (H<sub>2</sub>O) and carbon dioxide (CO<sub>2</sub>) using oxygen in the air. Triple Fresh II® performs quiet but powerful cycle deodorizing for 24 hours, and can be used semipermanently.

New  
Function



Pet odor

Double  
efficacy



Form-  
aldehyde



Cigarette  
odor



Garbage  
odor etc.

TRIPLE FRESH II® treated carpet, curtain, wall paper...

Comfortable Indoor Air



**Absorbs and decomposes formaldehyde that causes sick building syndrome**

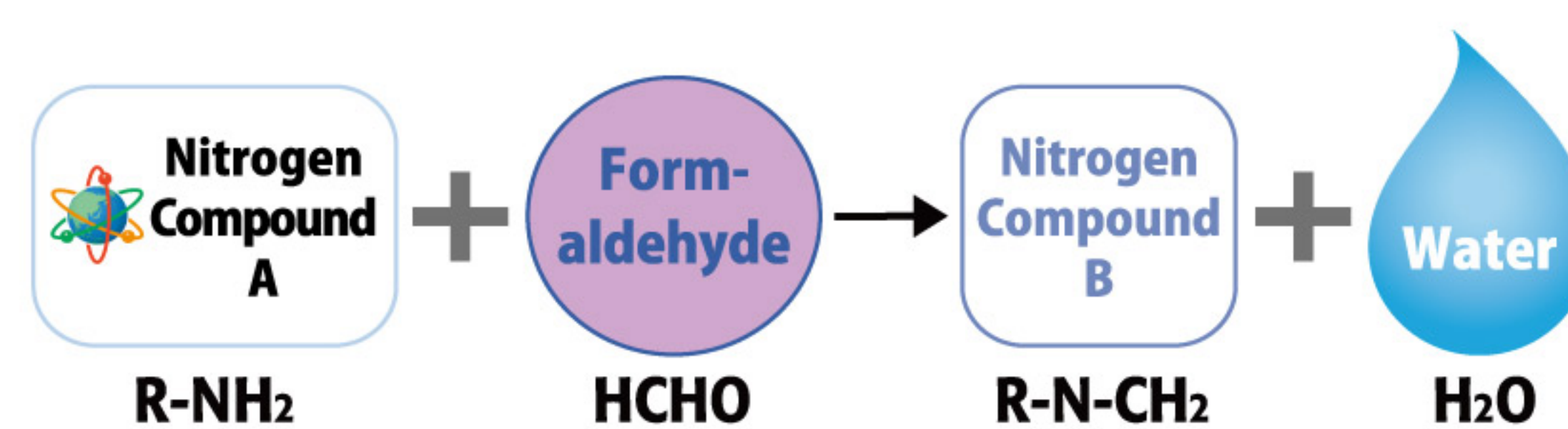
**Doubled deodorant effect gets rid of odors quickly and repeatedly.**

By combining two different types of performances ( A and B ), a very powerful deodorant effect is produced.

**(A) Quick deodorizing by a chemical reaction**

Formaldehyde combined with a special nitrogen compound is decomposed into safe, less harmful substances. This mechanism is a chemical reaction, and, with the use of reactive substances, it rapidly deodorizes formaldehyde and delivers excellent initial performance.

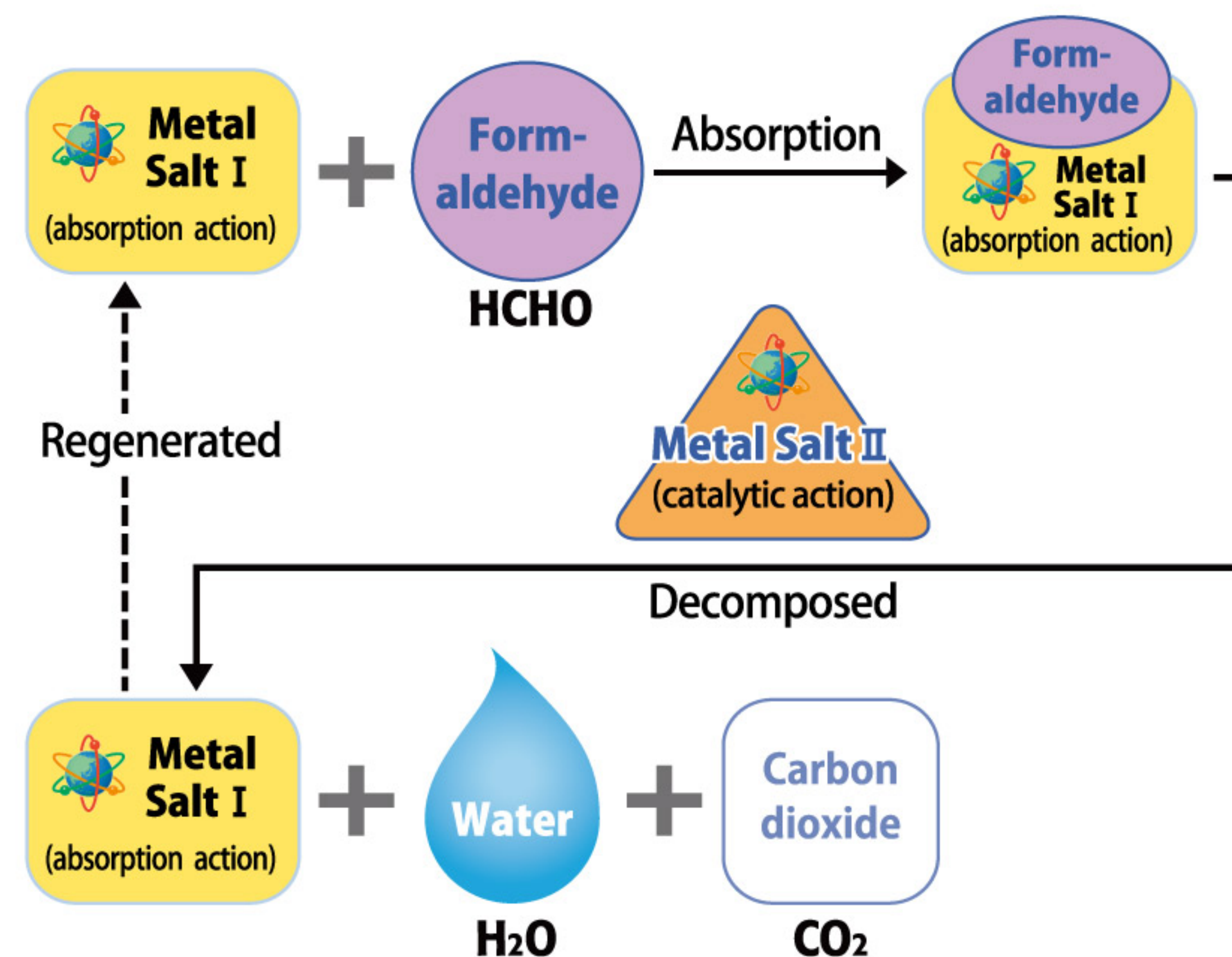
**【 Chemical reaction mechanism 】**



**(B) Lasting effect by cycle deodorizing**

Formaldehyde combined with special Metal Salt I is decomposed by catalysis of Metal Salt II. Since Metal Salt I is regenerated, formaldehyde is repeatedly deodorized ( absorbed and decomposed ). The initial deodorant effect is not great as that of A, but the effect lasts longer because of the " cycle deodorizing, " in which the deodorant performance is regenerated as soon as formaldehyde is decomposed by catalysis.

**【 Chemical absorption and decomposition mechanism 】**



**Triple Fresh II® is applied to various products.**



carpet tile



broadloom carpet



area rug



curtain



wallpaper



hospital curtain



automotive fabric



aircraft's carpet



refrigerator as air filter



deodorant "Tispa" series