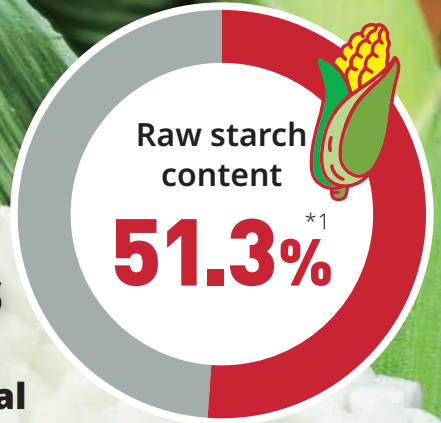


**NEW**

## A Different Approach From Biomass Plastics

**Biomass-based composite material**



# Morokoshi Pellet

This biomass-based composite material is made with 51.3% raw starch (unprocessed corn starch).

We do not process the raw starch when forming the pellets, making this different from Biomass Plastics. This is an entirely new category of material.

### Features

#### 1 Specially made

A mix of raw starch and polypropylene using a special method adapted from starch glue manufacturing.



#### 2 Easy to mold

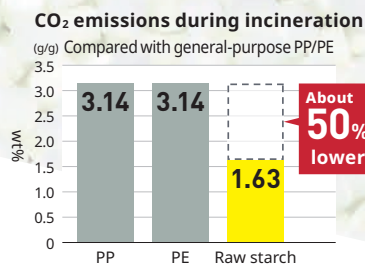
Can be used with existing equipment and molds. No pre-drying required.

#### 3 Compliant with Japan's Food Sanitation Act

Complies with the recently amended version of Japan's Food Sanitation Act.

#### 4 Eco-friendly

Made with less petroleum-based plastic. About 50% lower CO<sub>2</sub> emissions when incinerated.



### Major applications

Injection molding  
Blow molding

### Specifications

		Measurement method
MFR(g/10min)*2	3.7	JIS K 7210
Tensile stress (MPa)	24.4	
Tensile Distortion (%)	16	JIS K 7161
Tensile modulus (MPa)	1570	
Flexural stress (MPa)	31.2	JIS K 7171
Flexural modulus (MPa)	1570	
Charpy Destructive Impact (KJ/m <sup>2</sup> )	3.58	JIS K 7111
Molding shrinkage (%)*3	MD 1.19	JIS K 7152-4
	TD 1.17	
HDT(°C)	97	JIS K 7191-2

The data above are measured values and do not constitute a performance guarantee.

\*1 Based on the amount used in manufacturing

\*2 190°C, 2.16 kgf

\*3 Molding shrinkage is measured without drying.

**KOIZUMISEIMA CO., LTD. | Fuekinori Kogyo Co., Ltd.**

Morokoshi Pellet was jointly developed by KOIZUMISEIMA and Fuekinori Kogyo.

Cap for Baron Box and Spout Bag

# Morokoshi Cap

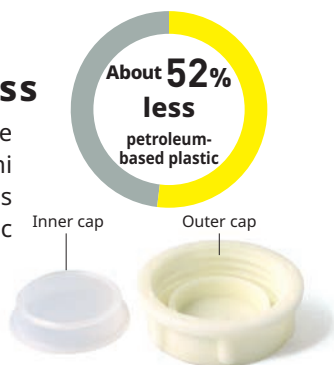
Morokoshi Cap is designed for Baron Box and Spout Bag and is made with Morokoshi Pellet, a new material to replace petroleum-based plastics.



## Features

### 1 Eco-friendliness

The outer cap is made with 100% Morokoshi Pellet. About 52% less petroleum-based plastic than conventional caps.



### 2 Quality

Passes the same tests as for conventional petroleum-based plastic caps.

Capping

Chemical resistance test

### 3 Secure design

Made with Morokoshi Pellet, which complies with Japan's Food Sanitation Act. Also, the inner cap, in contact with the liquid, is the same as conventional caps, allowing seamless switching.

## Life cycle assessment (LCA)

We have calculated the environmental impact over the entire lifetime of products from raw material procurement to disposal.

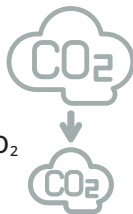
### — Results

CO<sub>2</sub> emissions per cap

Scope of assessment: caps from raw material procurement to incineration

Conventional PE cap: 0.082 kg-CO<sub>2</sub>

Morokoshi Cap 0.057 kg-CO<sub>2</sub>

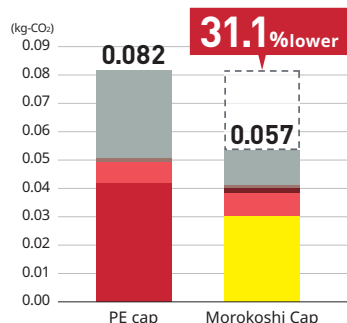


### — Factors for lower CO<sub>2</sub>

Less petroleum-based plastic used

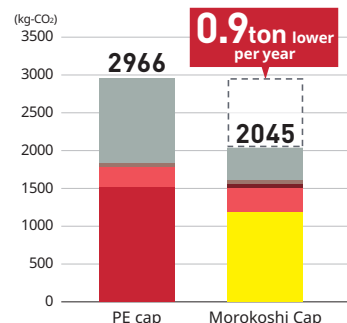
CO<sub>2</sub> from incineration mitigated with carbon neutrality

#### CO<sub>2</sub> emissions per cap



■ PE manufacturing   ■ Morokoshi Pellet manufacturing   ■ Cap manufacturing  
■ Truck transportation (port to our plant/ 489km)   ■ Truck transportation (our plant to clients/ 413km)  
■ Incineration

#### Annual CO<sub>2</sub> emissions (when using 3,000 caps per month)



Note: Total values have been rounded.

**If you use 3,000 containers per month, you can cut CO<sub>2</sub> by about 0.9 ton per year.**

## Precautions

Test a sample with actual liquid before use. Do not use this product for anything other than the intended purpose.

Follow proper procedures when disposing of this product. Store this product away from direct sunlight, high temperatures, and humidity.

Performance may vary depending on usage conditions.

Contact us if you have any inquiries regarding use. Product specifications are subject to change without notice.

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