

# Clarifying Nucleating Agent Masterbatch for PP

## Applications

Masterbatch applying transparency to polypropylene (PP) food packaging materials, stationery, household goods, and industrial components

## Characteristics

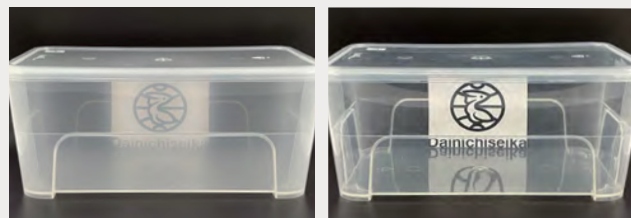
- Masterbatch dispersed with clarifying nucleating agent for PP at high concentration, having excellent workability and anti-staining property.
- Capable of producing extremely transparent molded articles by using Homo/Random PP (Nonuse of nucleating agent is recommended).
- Applicable to various molding methods such as injection, extrusion, and blow moldings.
- Excellent transparency at low addition amount compared to conventional products.
- Sufficient transparency effect even with low temperature molding due to low temperature dependency.
- Applicable to food packaging materials because of having little harmful impact on smell and taste of the content.
- Suitable for applications requiring heat resistance because of having high deflection temperature under load.
- Capable of expecting improvement of mechanical properties and cycle time reduction in molding process by increasing crystallinity and crystallization temperature.
- The transparentizing agent is registered with the Japan Chemical Innovation and Inspection Institute (JCII), and has been certified as "Clear Master". Additionally, the raw materials used are listed as a raw material in the U.S. Food and Drug Administration (FDA) (21CFR), COMMISSION REGULATION (EU) No 10/2011 of 14 January 2011 on plastic materials and articles intended to come into contact with food, and China's National Standard (Guójiā Biāozhǔn), GB 9685-2016.
- Block PP resin (excluding some types) does not have a transparent effect.

## Representative Products

Product name	Base resin	Recommended addition amount (%)	JCII's Certificate registration number (limitation amount)
H8020	Homo PP	1.5~2.5	[B]JPM-56878 (less than 2.5% to PP)
R8020	Random PP	1.5~2.5	

## Examples of transparency

Homo PP resin container viewed from the side



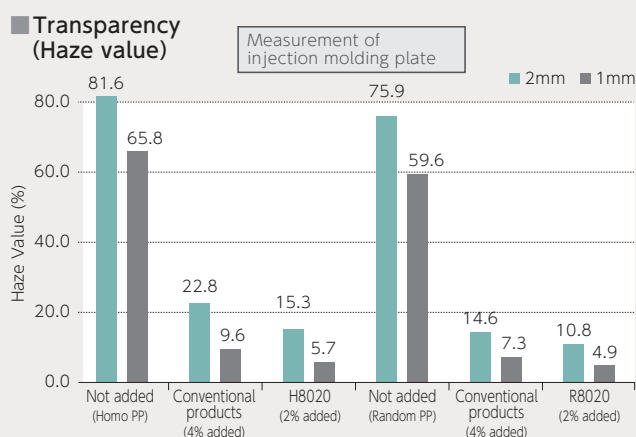
Clear Master additive-free product

Clear Master additive-containing product

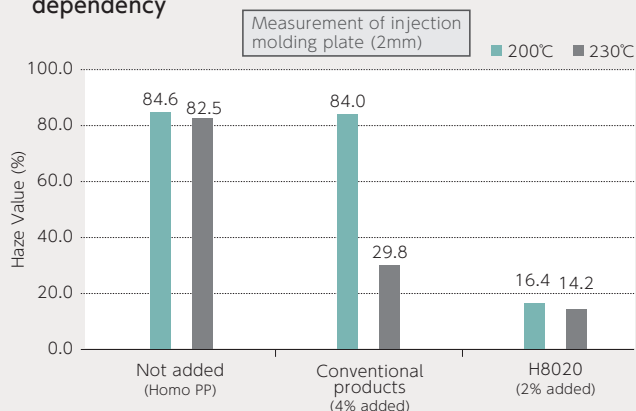
## Evaluation Results

### Transparency of molded articles

★ Comparison with the conventional products (H300)



### Molding temperature dependency



\* Haze Value : JIS K 7136 The smaller the number, the more transparency.

### Mechanical properties

Item of physical property	Test standard	Unit	Homo PP No additives	Homo PP H8020=2%
Tensile strength	ISO 527	MPa	35	42
Tensile elongation		%	83	9
Tensile modulus	ISO 178	MPa	1,618	2,184
Flexural strength		MPa	46	57
Flexural modulus	ISO 178	MPa	1,627	2,164
Charpy impact value	ISO 179	KJ/m <sup>2</sup>	1.4	1.5
Heat distortion temperature (under low load)	ISO 75	°C	94	109
Shrinkage rate	Our company standard	%	1.1	1.3
Crystallization temperature	Our company standard	°C	112	132

Clarifying nucleating agent masterbatch:H8020

\* The above data represents our internal experimental data and is not guaranteed.