

The logo for KANEKA, featuring the word "KANEKA" in a bold, blue, sans-serif font. The letter "K" is stylized with a vertical bar to its left.

The Dreamology Company
— Make your dreams come true —

What contributions KANEKA can make to SDG9

KANEKA CORPORATION

2018.04.17

Name	KANEKA CORPORATION
Date of establishment	September 1, 1949
Paid-in Capital	33,046 million yen (as of March 31,2017)
Net Sales	548,222 million yen (as of March 31,2017)
Number of employees	9,666 (consolidated basis/as of March 31,2017)
Line of business	Chemicals, Functional Plastics, Expandable Plastics and Products, Foodstuffs Products, Life Science Products, Electronic Products, Synthetic Fibers and Others
Head Office	Tokyo (JAPAN)
Domestic Facilities	Office: Nagoya Plant: Takasago (Hyogo), Osaka, Shiga, Kashima (Ibaraki)
Overseas Facilities	U.S.A. / Belgium / Singapore / Malaysia / Australia / China /India/ Brazil etc...

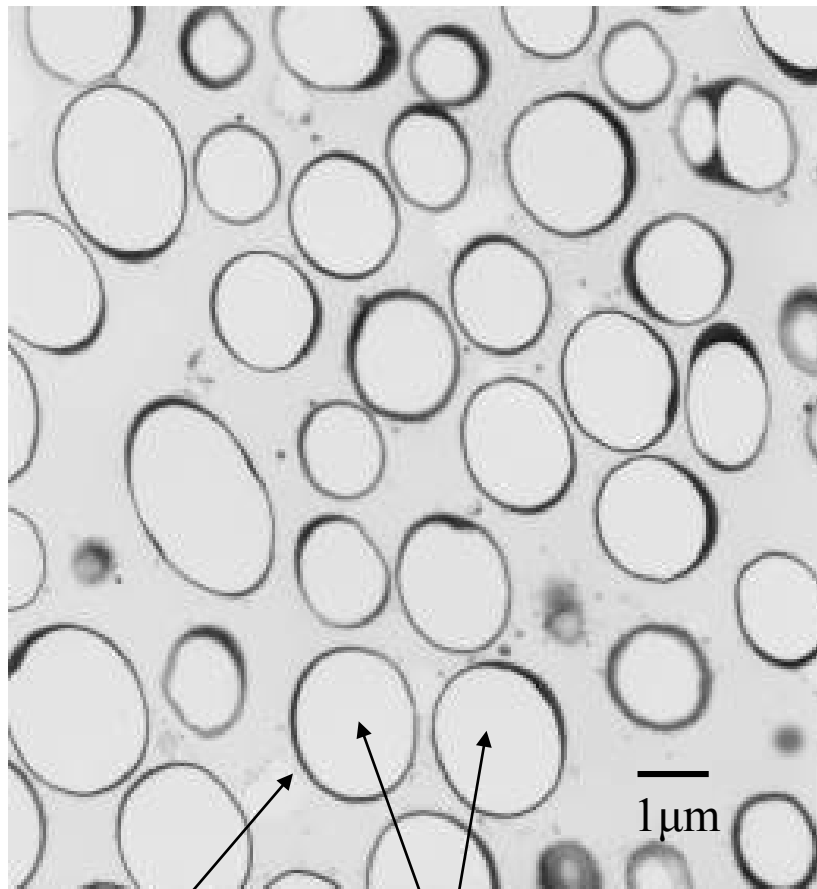
With people and technology growing together into creative fusion, we will break fresh ground for the future and tie in to explore New Values. We are also committed to challenge **the environmental issues of our planet and contribute to upgrading the quality of life.**

人と、技術の創造的融合により未来を切り拓く価値を共創し、
地球環境とゆたかな暮らしに貢献します。



КАНЕКА KANEKA Biodegradable Polymer PHBH

PHBH produced by microbial fermentation from plant oils.

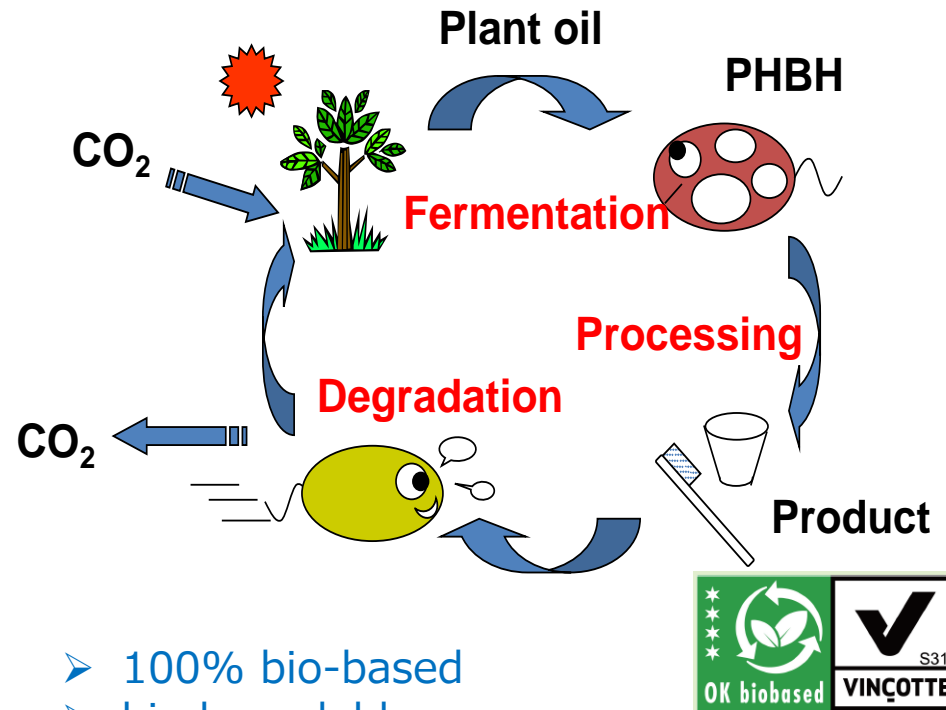


microbial

PHBH

Fermentation of PHBH

Life cycle of PHBH



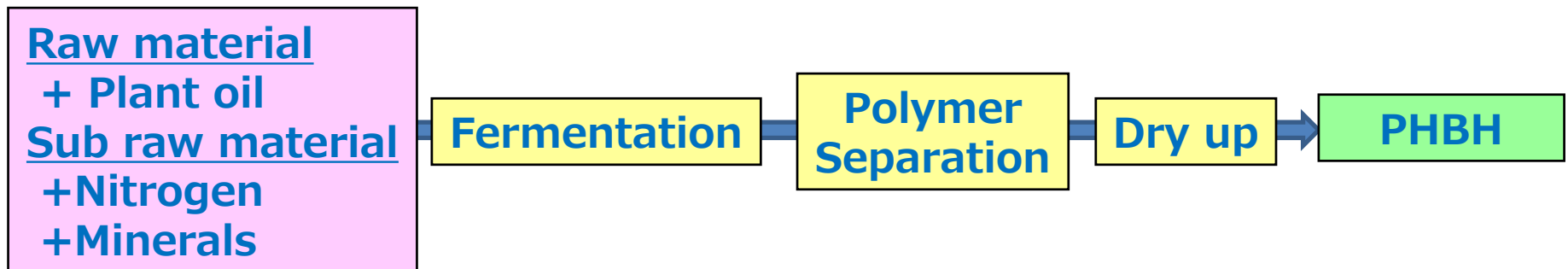
- 100% bio-based
- biodegradable
- Higher hydrolysis stability and HDT than any other bio-polymers
- Polyolefin like soft touch and flexibility
- Production capacity : 1000MT/y
- World wide supply ability

KANEKA KANEKA Biodegradable Polymer PHBH

Example of applications

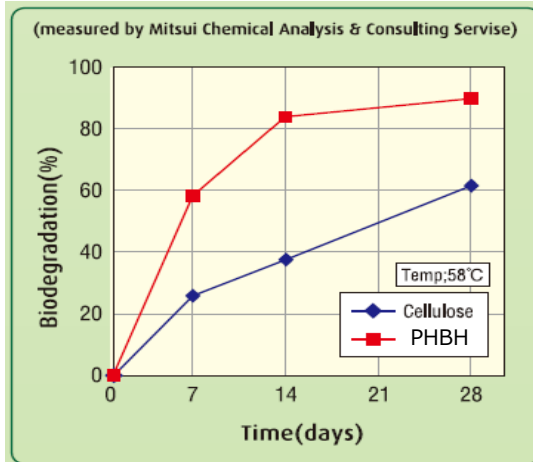


Production scheme of PHBH

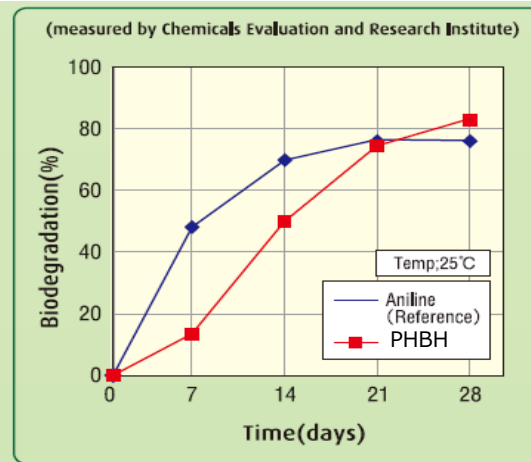


Biodegradability

Aerobic



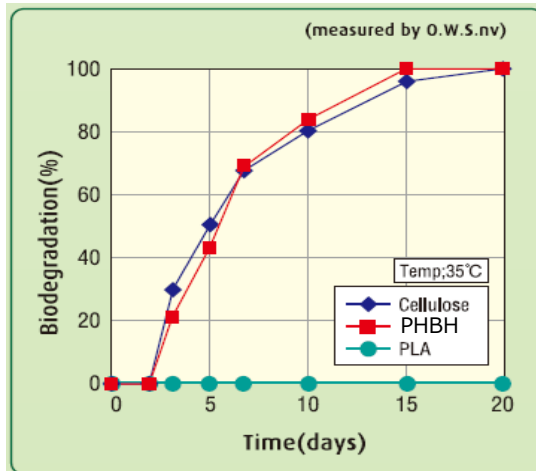
ISO14855 (compost)



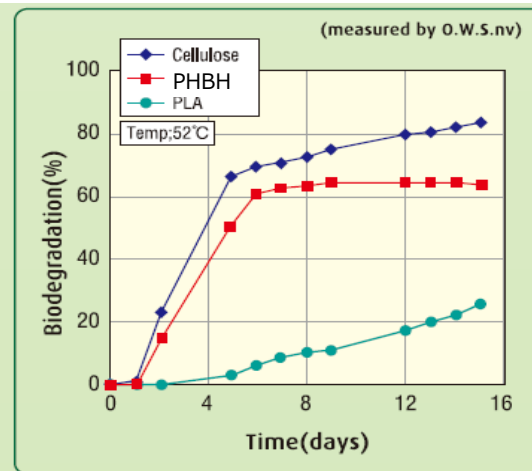
ISO14851 (activated sludge)



Anaerobic



ISO14853 (aqueous phase)



ISO15985 (solid phase)

Good biodegradability under both conditions

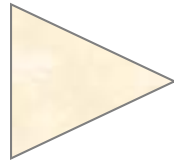
Biodegradability in Soil

Weeks	Start	83	199
PHBH	 A clear, rectangular polymer film labeled "1120-C 11%" is shown against a dark background.	 The PHBH film is shown partially buried in dark soil, appearing as a white, irregularly shaped residue.	Totally degraded
PLA	 A clear, rectangular polymer film labeled "11440" is shown against a dark background.	 The PLA film is shown in soil, appearing dark and heavily stained with some surface degradation.	 The PLA film is shown in soil, appearing heavily fragmented, stained, and significantly degraded.

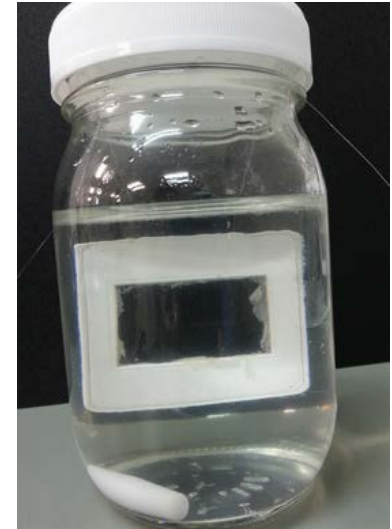
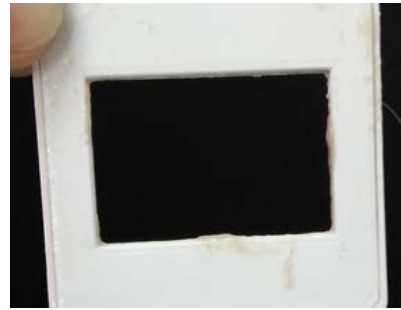
Sample : 10 μ m thickness
Sol : KANEKA Osaka Factory

Biodegradability in Sea water

Test sample
(PHBH film)



After 5 days



Sample : 10 μm thickness
Condition : 23°C, aerobic
Sea water : from Osaka bay, Japan

PHBH film was degraded and disappeared in sea water.

Certifications for biodegradation

OK compost HOME

Low residual heavy metal

Compostable under 28°C

(>90% in 6months)

Disintegration under 28°C

(>90% in 6months)

No disturbance of plant growth



OK biodegradable MARINE

Low residual heavy metal

Compostable under 30°C in sea water

(>90% in 6months)

Disintegration under 30°C in sea water

(>90% in 6months)

No environmental toxicity



See also:

<http://www.okcompost.be/en/home/>

Environmental impact of Plastic waste

- ① Diffusion of one way use plastic material leaked to environment
- ② Microplastic waste in marine environment

EU Directives

94/62/EC	Packaging and packaging waste directive	Minimisation of packaging volume and weight
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Similar laws and regulations of other countries

More than 40 countries (Kenya, Rwanda, Italy etc.)

(2017.09.06 NewsWeek web)

French Law

2016	Energy Transition for Green Growth Law	Single-use Plastic bag below a thickness of 50 μm ban Exempt from the ban for fruit and vegetables bag which are made from bio-sourced materials and home compostable
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Serious issue for developing and developed countries

Our Proposal

Contribute to solution of environmental issue by promotion of biodegradable plastic by receiving support from UNIDO

Infrastructure

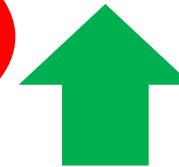
by Government
Waste collection and
compost system

Proposal of disposal
technology and
labeling System



ISID: Inclusive Sustainable
Industrial Development
Plastic compounder
and converter

Technology
transfer
and support



Plastic
waste
issue

Innovation

KANEKA Biodegradable Polymer PHBH
is 100% bio-based and biodegradable

Our Goals

- Help municipal government to establish infrastructure such as waste collection and labeling system for bio-degradable plastic
- Create new bio-degradable plastics industry through ISID
- Contribute to the achievement of SDG 9

Thank you for your attention

Kaneka

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—Make your dreams come true—