

BioSTRAWS

by ecozoe



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SUSTAINABLE LIFE

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BioSTRAWS

IDEA AND CONCEPT

To develop a replacement
for plastic straws

100% biobased

Biodegrade naturally

Competitive price

Zero carbon footprint

Functional drinking straws

KEY INGREDIENTS



Broken rice flour + Tapioca starch

JOURNEY OF DEVELOPMENT



Prototyping



Ingredient
screening



Line
Production



Testing



Removed
Allergen



Improved
durability



Colour
straws



Improved
straightness



Certification

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PRODUCT INTRODUCTION



Bare Straws

COMPARISON WITH OTHER ALTERNATIVES

- **Metal straws**

- Ore extraction cause high carbon emission.
 - Hygiene issue if not properly cleaned.
 - High cost

- **RiceStraws**

- 100% food materials
 - Single-use, no maintenance
 - Process waste into feed/fertilizer - Zero waste
 - Customizable size
 - Fully biodegrades in 90 days.

- **Paper straws**

- Soften easily in water
 - Paper taste
 - Use of gluing agent
 - Plastic coating might be used
 - Takes time to biodegrade

- **Bamboo straws**

- Difficult to clean
 - Maintenance needed
 - Irregular size
 - High cost

PRODUCT INFORMATION

Outer diameter

- 5.0mmD - Packet drink straws
- 6.5mmD - Normal drinking straws
- 8.0mmD - Frappé
- 13mmD - Boba drink straws

Standard length

- 20cm (except 5.0mmD straws)

Durability

- Minimum 2 hours

Other features

- Vegan friendly
- Gluten-free (test report available)
- 2 years shelf life

Packaging

- Bare straws in paper bag
- Bare straws in paper tube
- Single-wrapped straws - bulk
- Single-wrapped straws - party size

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PACKAGING



SINGLED WRAPPED STRAWS



PAPER BAG



SINGLED WRAPPED STRAWS



CARDBOARD BOX

WATER TESTING

60 °C HOT WATER



0 hrs

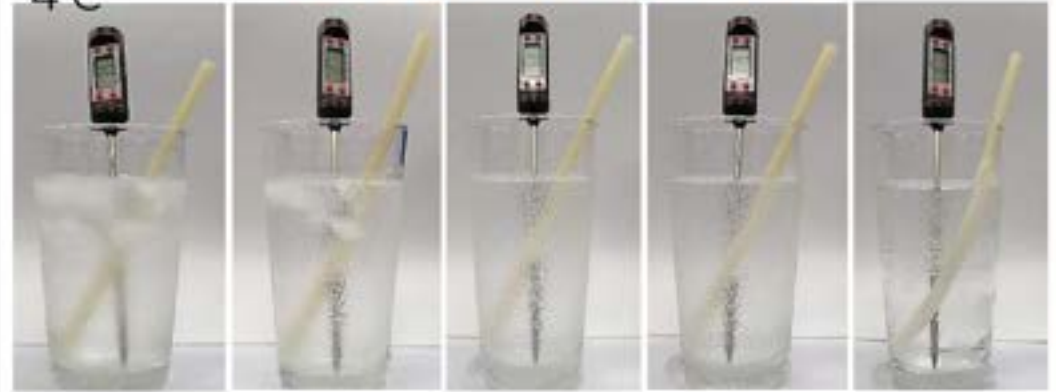
0.5 hrs

1 hrs

1.5 hrs

2 hrs

4 °C COLD WATER



0 hrs

0.5 hrs

1 hrs

1.5 hrs

2 hrs

ZERO WASTE

Dispose as food waste.

Process into fertilizer or animal feed.



Consume



Food Waste



Fertilizer



Animal Feed

BIODEGRADATION

8.0MMD STRAWS BURIED IN GROUND



WEEK 0



WEEK 1



WEEK 2



WEEK 3



WEEK 4



WEEK 5

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CERTIFICATIONS



1 062-02/2020



ROLE DURING COVID 19

Spike of need for take away food service.

Hence, increase in use of food packaging materials, including straws.

Governments encourage adaptation of biodegradable food packaging material to reduce waste and pollution.

RiceStraws is 100% biobased drinking straws made by 100% food materials.

RiceStraws biodegrades in environment within 90 days.

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THANK YOU