The Next Generation of Biodegradable Plastics

Ending Plastic Waste Symposium 2024

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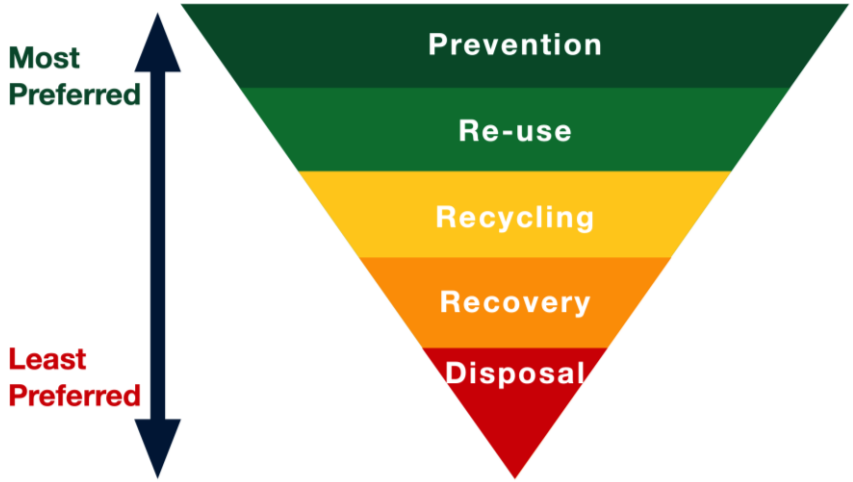
enzide®

Plastic without Pollution

Options for Single Use Plastic End of Life?

Value Proposition

- Using plastic waste as a valuable resource
- Conserving petroleum
- Reduction of green house gases

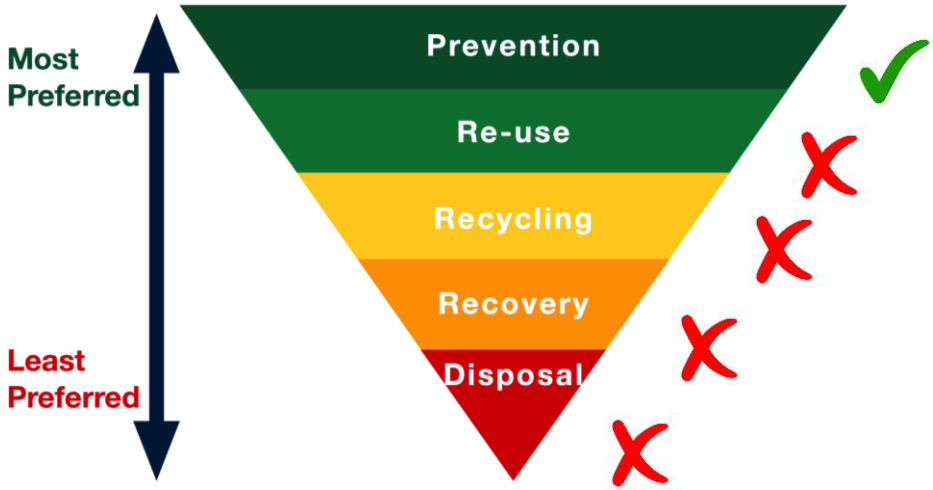


Options for Single Use Plastic End of Life?

Value Proposition

Preventing Plastic Pollution

- Persistent plastic pollution
- Microplastics
- Animal and human health



Waste Management always will be ineffective at preventing plastic pollution

Biodegradation

Compostable Materials

Why is there a marginal uptake of biodegradable plastics?

High Price

Permeability

Mechanical Strength

Biodegradation rate

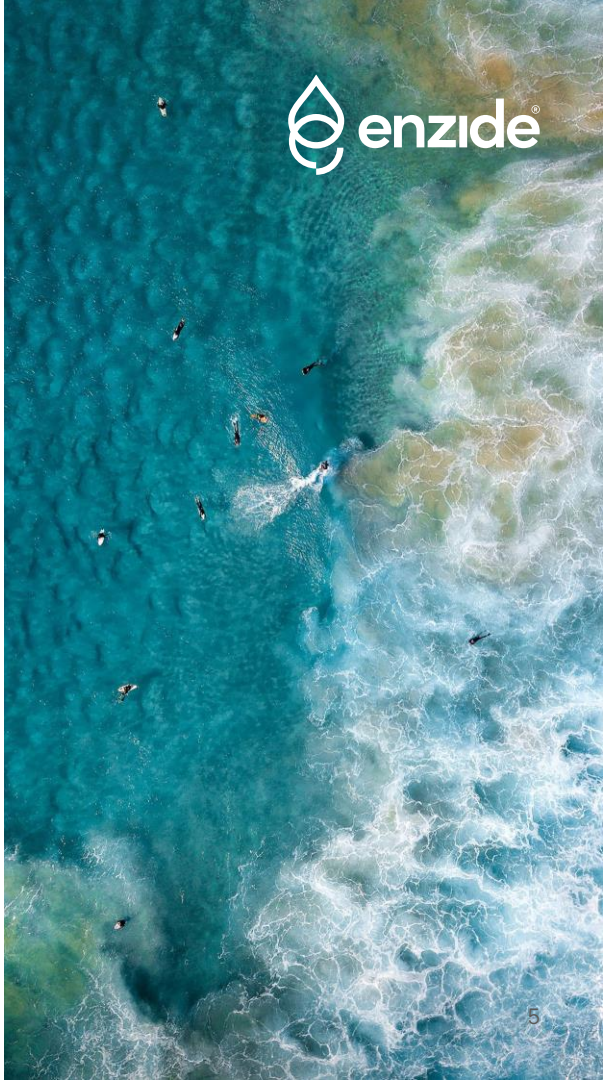
Enzide Technologies

The next generation of biodegradable plastics

Enzyme Additives for accelerated biodegradation of bioplastics

Enzide enables an expanding new range of biodegradable plastic products

- Thicker stronger bioplastics –> rigid plastics
- Improved mechanical performance of flexible plastics
- Degradation in a range of real environments
- Improved barrier properties



The next generation of biodegradable plastics

Enzide enhanced bioplastics

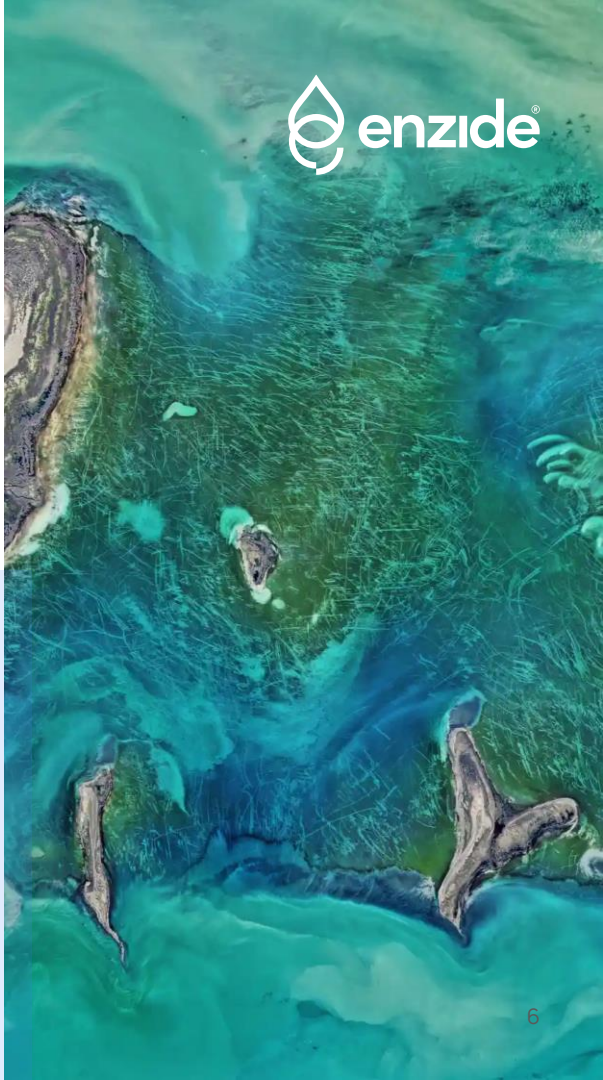
Rapid home compost degradation

Escape confinement

Enzymes disintegrate plastic fast at end of life

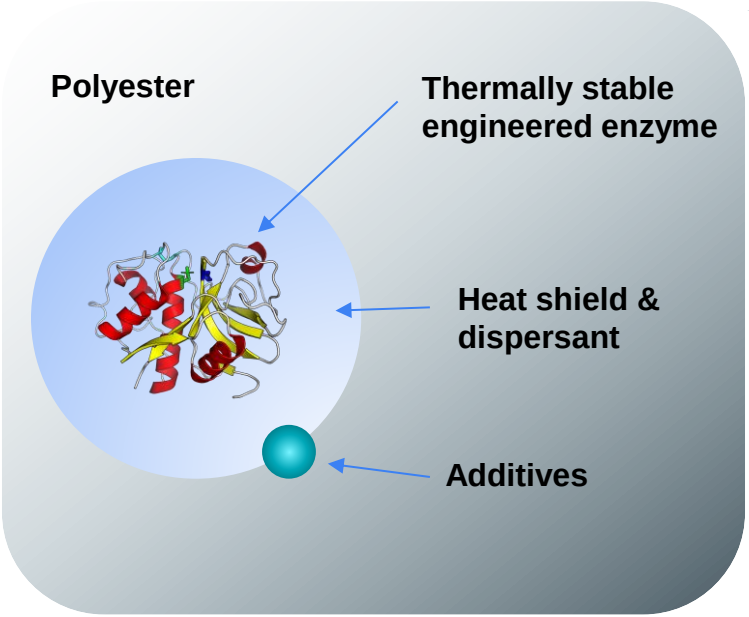
Mineralisation by microbes

No pollution, No microplastics



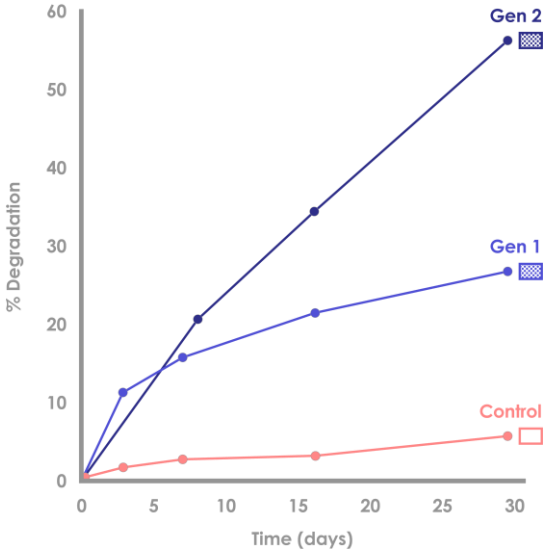
Enzyme additive melt processed into commodity bioplastics to accelerate their degradation

Enzide's Masterbatch Additive

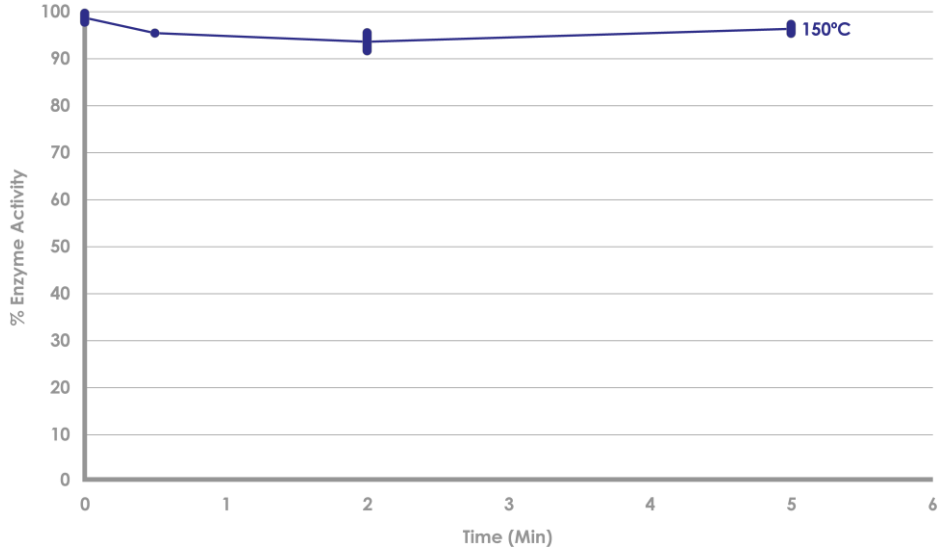


Enzide's Performance

Disintegration in Seawater



Additive Thermal Stability



Fast Degradation

- 20x disintegration rate
- Most commercial bioplastics
- Seawater, freshwater and home compost

High Thermal Stability

- A robust product = quality assurance
- Enables re-grinding
- Multiple manufacturing entry points
  - Compounding
  - Moulding

Ongoing activities

Research & Development

Enzyme engineering
Performance improvement with multiple bioplastics
Fermentation optimization

Additive development
Thermal protection, dispersion, microenvironment manipulation

Product development with partners
Improved flexible films and packaging
Rigid packaging and utensils
Agriculture and aquaculture

University R&D
RMIT
Monash University

Partnerships

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