

Backed by Science.
Designed for the Real World.

Biodegradable Plastic Sticks for Cotton Buds
Certified and Responsible



PPPi

PERM POON PATANA
INDUSTRY CO., LTD.

**Same
Performance.**

**Smarter
Future.**

**Certified
Sustainability.**

From Everyday Use to Environmentally Conscious Disposal

Plastic cotton bud sticks are small — but their impact can last for generations. To help address this issue, we have developed a biodegradable plastic stick designed for single-use hygiene products that meets international biodegradation standards.

This product offers the same durability, safety, and appearance as conventional plastic sticks, but with a crucial difference:

It is engineered to biodegrade under specific landfill conditions, minimizing long-term plastic pollution.

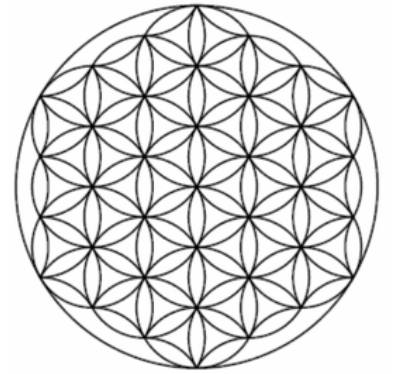
Tested to International Standards

The biodegradation behavior of our plastic sticks has been evaluated using:

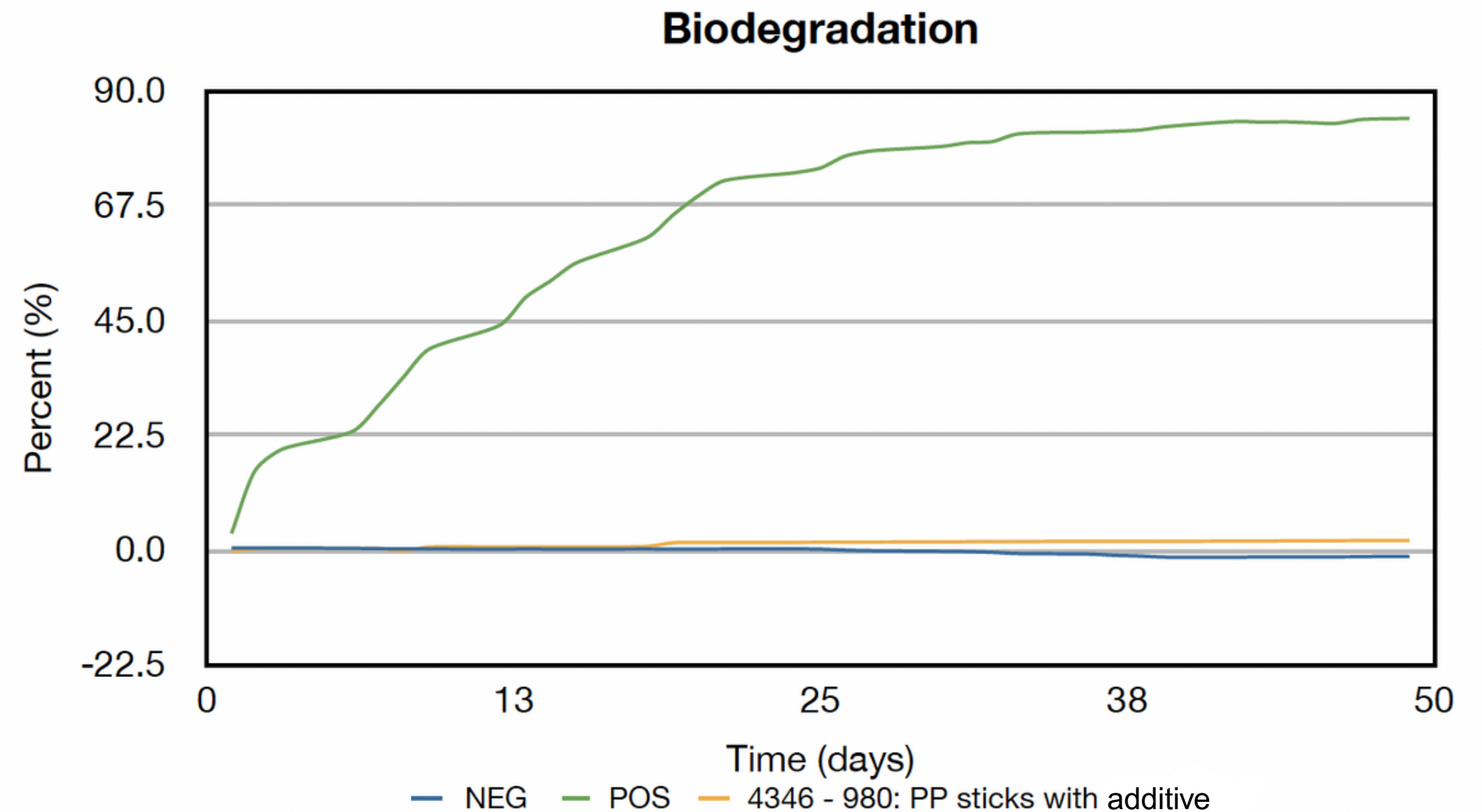
- **ASTM D5511:** Standard Test Method for Anaerobic Biodegradation of Plastic Materials under High-Solids Anaerobic-Digestion Conditions (simulating active landfills)
- Conforms with principles of **Circular Material Optimization (CMO)** and extended product responsibility practices

Independent laboratory results show:

- **Continued breakdown** under anaerobic microbial activity
- No degradation in untreated control samples



Eden Research Laboratory



Safe and Stable During Use

This product is formulated to maintain its full physical integrity during:

- Manufacturing and storage
- Use by consumers
- Transportation and shelf-life

Biodegradation is **not triggered prematurely** — it begins only after disposal into suitable biological environments.

Built for Circular Thinking:

This biodegradable stick aligns with modern sustainability frameworks:

- **Supports waste reduction goals**
- **Minimizes environmental footprint**
- **Compatible with circular design principles**

Whether your company is focused on plastic reduction, compliance with green product standards, or seeking **alternatives to hundred-years degradable**, this solution is designed for you.

Key Features:

- Performs identically to standard plastic during use
- Designed for **post-use biodegradation** in landfills
- Tested and verified under **ASTM D5511**
- Suitable for high-volume, automated cotton bud production
- Helps meet sustainability certifications and regulatory expectations

Let's Redesign Single-Use for the Future

By adopting certified biodegradable materials in everyday products, we take real action toward a cleaner planet. Our cotton bud sticks represent an important step forward — **science-based, performance-proven, and responsibly designed.**



Small change. Big difference. Scientifically verified...