

---

### Fast Facts

- The first marine biodegradable and compostable straw and stirrer available to mass consumers
- Performs like traditional, synthetic plastic straws
- Biodegrades and composts in 6-12 months
- Created by WinCup, Inc.
- Made with Danimer Scientific's NODAX™ PHA (Polyhydroxyalkanoate)

---

### The Science Behind phade®

- PHA is a naturally occurring bio polymer derived from the fermentation of canola oil
- PHAs are a renewable resource-based alternative to petrochemical polymers
- phade® is created with a "closed-loop" design. It is created with a naturally occurring bio polymer intended to return to the environment after use

---

### Certifications – phade® has undergone rigorous testing by the world's top certifying bodies, including:

- **TUV AUSTRIA** – a globally recognized market leader in certification of biodegradable plastics. Certifications include:
  - Marine Biodegradation
  - Home Compostability
  - Industrial Compostability
- **Biodegradable Products Institute (BPI)** - the largest certification organization for compostable products in North America. BPI has certified phade® as industrial compostable

---

### Industry Recognition

- **2020 Innovation in Bioplastics Award** – WinCup and Danimer Scientific received the 2020 Innovation in Bioplastics Award by the Bioplastics Division of PLASTICS for developing phade® as a reliable compostable and marine biodegradable alternative to traditional petrochemical plastic.

---

### Comparison to Straw Alternatives – phade® outperforms other traditional straw alternatives, such as paper and polylactic acid (PLA) straws.

- **phade® vs. paper straws:**
  - Performance and user experience – phade® feels and performs like a petro-based plastic straw, whereas paper straws become soggy and unusable
  - Biodegradability – Paper straws often use non-biodegradable adhesives
  - Cost – On average, phade® straws are priced 5% less than paper straws
- **phade® vs. PLA straws:**
  - Biodegradability – PLA straws are neither marine biodegradable nor home compostable
  - Performance – PLA straws are heat sensitive, meaning they do not perform with hot beverages and cause shipping and warehousing challenges in hot environments
  - PLA end of life options are limited to industrial compostable facilities, which do not exist in all areas