naNea

The Next-Gen Biodegradable Polyester



A global pollution problem

Synthetic textiles (mainly polyester) are major source of microplastics in our environment, especially in the oceans.

~500‘000 t
of plastic from textiles enter the ocean every year.[1]

~35%
of primary microplastics in the oceans come from synthetic textiles.[2]

Cumulative
plastic in the oceans is estimated at 75-199 million tonnes and continues to increase.[3]

From everyday textiles to lasting pollution

During washing and use, polyester fabrics release microfibers. These are too small to be fully filtered, enter rivers and oceans and accumulate in the environment – with long-term impacts on marine ecosystems and potentially on human health.

From clothes to microplastics – a global challenge

Polyester does not readily degrade in natural environments. Microplastic particles persist for decades to centuries, accumulate in the oceans and enter the food chain.



A solution designed for the natural cycle

naNea is a novel co-polyester that maintains the performance of PET but is **designed to biodegrade** in different environments and to be recycled. It **does not release persistent microplastics.**

Proven biodegradability in the marine environment

Marine biodegradation in 99 days.[4]

The polymer is converted by natural microorganisms into CO2, water and biomass.[5]

Antimony-free and free from harmful substances

naNea uses an antimony-free catalyst and contains no toxicants or heavy metals. It is safe for consumers and designed for a healthy material cycle.

Recyclable in existing systems

naNea can be recycled along with PET in existing recycling infrastructure – supporting a circular economy and reducing the need for virgin resources.

material health CERTIFIED cradle to cradle gold version 4.1

Cradle to Cradle Certified® Material Health Gold

naNea avoids all substances on the Cradle to Cradle list of banned chemicals.[6]

Join the network of leading brands and manufacturers using naNea.
Get in touch and discover naNea today.

Contact OceanSafe AG, | info@oceansafe.co | +41-31 544 23 27
Stauffacherstrasse 66a | CH-3014 Bern | Switzerland | www.oceansafe.co

OceanSafe

Sources: [1] Textile Research Journal Link, [2] IUCN Link [3] UNO Link [4] OceanSafe, ASTM D6691-17; [5] Microorganisms Link; [6] Cradle to Cradle Link

naNea

The Next-Gen Biodegradable Polyester



Fact Sheet

naNea is a novel co-polyester designed for both biodegradability and recyclability. The material is made from bio-based, recycled or virgin feedstock. Its polymer structure enables rapid biodegradability in the open environment, without the use of chemical additives.

naNea does not release persistent micro or nano plastics and is the world's only synthetic textile material to receive Cradle to Cradle Certified® Gold. naNea is an obvious choice for brands facing increasing legislative pressure to adopt environmentally responsible materials.

naNea is soft, matches the performance of PET and has an excellent built-in moisture management. As a drop-in technology, switching to naNea in manufacturing is easy.

Consumers benefit from a safe, durable material without harmful substances.

naNea is a highly scalable material by OceanSafe, the Swiss polymer science company pioneering next-gen materials for a circular economy.

Watch the video about the technology: **Link**

Environmental Impact

- Marine biodegradable in 99 days by >93% (ASTM D6691-17)
- No persistent microplastics
- Recyclable along with PET
- No antimony-based catalyst
- No toxicants or heavy metals
- Not ecotoxic
- Biodegradable also in soil & landfill
- Potential to reduce CO_2 emissions

Technical Properties

- Comparable durability and strength as PET
- Soft and pleasant hand-feel
- Highly absorbent & hydrophilic
- Quick-dry & high wicking
- Available as chips, fiber & filament
- Inherently flame-retardant
- Easy care & washable at 60°C

Drop-In Technology

- Compatible with existing textile machinery across entire value chain
- No investment needed for implementation
- Highly scalable & market-ready
- Suitable for weaving & knitting
- Conventional dyeing & finishing

Consumer Benefits

- Safe material for consumers
- No harmful substances, toxicants or heavy metals
- Long-lasting quality, easy care
- Skin-friendly material with soft touch
- No biodegradation during washing or use!



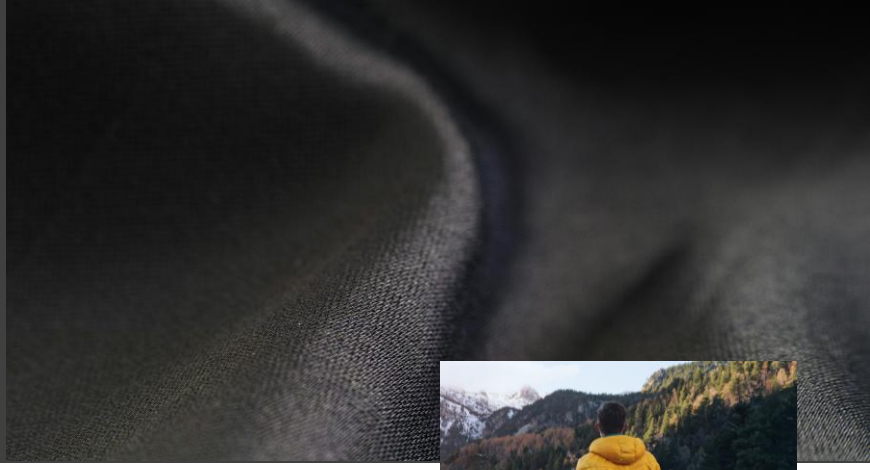
Join the network of leading brands and manufacturers using naNea.
Get in touch and discover naNea today.

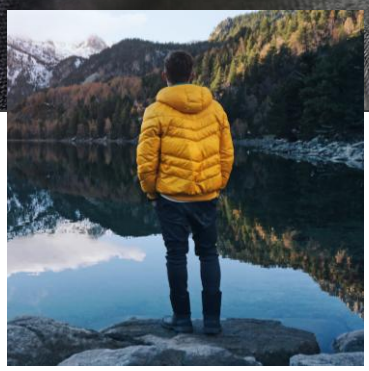
Contact OceanSafe AG, | info@oceansafe.co | +41-31 544 23 27
Stauffacherstrasse 66a | CH-3014 Bern | Switzerland | www.oceansafe.co

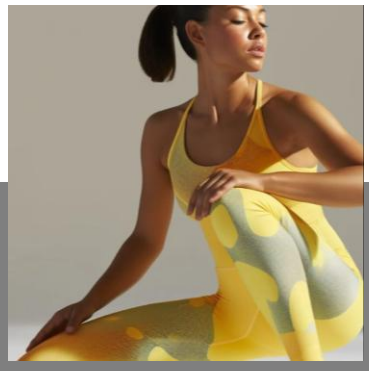
OceanSafe

naNea

The Next-Gen Biodegradable Polyester







A High-Performance Functional Material

naNea is engineered for built-in Moisture Management, Endurance and Comfort

naNea stands out not only for its environmental advantages, but also for delivering unparalleled functionality and surprising versatility across a wide range of applications.

This unique blend of sustainability and performance makes naNea exceptionally valuable for brands seeking durability and functionality while adopting responsible materials.

How Does naNea Compare to Conventional PET?

naNea Polymer & Yarn Properties

- Comparable tenacity
- Similar elongation at break
- Inherently flame-retardant due to higher LOI
- Lower melting point & glass transition point

Moisture Management

- Substantially higher hydrophilicity, absorption capacity and faster water penetration
- Comparable moisture wicking performance
- Comparable dry rate performance
- Similar moisture regain

Durability & Strength

- Similar tear strength
- Similar tensile strength
- Similar pilling
- Similar easy care

Fabric Level

- Very soft
- Pleasant hand-feel
- Similar stretch properties
- Good shape retention

Perfect For

- Sportswear
- Outdoor
- Workwear
- Insulation
- Non-Wovens
- Automotive

Join the network of leading brands and manufacturers using naNea.
Get in touch and discover naNea today.

Contact OceanSafe AG, | info@oceansafe.co | +41-31 544 23 27
Stauffacherstrasse 66a | CH-3014 Bern | Switzerland | www.oceansafe.co

OceanSafe