



### What is biodegradation?

Biodegradation is a chemical process in which materials are metabolised to CO2, water, and biomass with the help of microorganisms. The process of biodegradation depends on the conditions (e.g. location, temperature, humidity, presence of microorganisms, etc.) of the specific environment.

### What is compostability?

Compostability is a characteristic of a product that allows it to biodegrade under specific conditions (e.g. a certain temperature, timeframe, etc). These specific conditions are described in standards, such as the European standard on industrial composting EN 13432.

EN 13432 requires for the compostable plastics to disintegrate after 12 weeks and completely biodegrade after six months. That means that 90 percent or more of the plastic material will have been converted to CO2. The remaining share is converted into water and biomass – i.e. valuable compost.

### What is the difference between 'biodegradable' and 'compostable'?

The biggest difference between biodegradability and compostability; While there is no time limit for biodegradability, plastics for compostability should be completely biodegraded after six months.

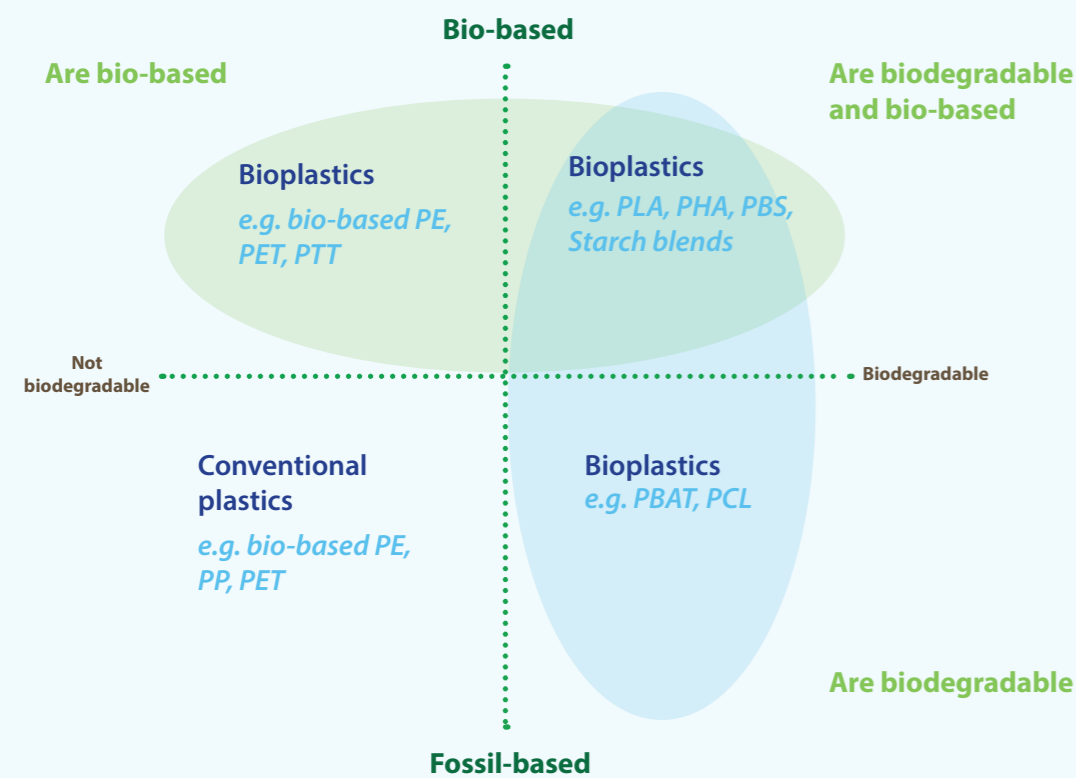
### What is the difference between oxo-fragmentable and biodegradable plastics?

So-called 'oxo-fragmentable' products are made from conventional plastics and supplemented with specific additives in order to mimic biodegradation. In truth, however, these additives only facilitate a fragmentation of the materials, which do not fully degrade but break down into very small fragments that remain in the environment.

Biodegradability is an inherent characteristic of a material or polymer. In contrast to oxo-fragmentation, biodegradation results from the action of naturally occurring microorganisms. The process produces water, carbondioxide, and biomass as end products.

Oxo-fragmentable materials do not biodegrade under industrial composting conditions as defined in accepted standard specifications such as EN 13432, ISO 18606, or ASTM D6400. That materials turn into microplastics that are visible to the eye.

**OXO DEGRADABLE PLASTICS ARE NOT BIODEGRADABLE.**



\*Source: <https://www.european-bioplastics.org/news/publications/>



# Biopolymer Solutions



Turhan Cemal Beriker Bulvarı Yolgeçen Mah.  
No: 565 01355 Seyhan / Adana / Türkiye  
[www.sunarnp.com](http://www.sunarnp.com) / [info@sunarnp.com.tr](mailto:info@sunarnp.com.tr)  
T: +90 (322) 441 01 65 (pbx) F: +90 (322) 441 02 50

[f/sunar.sunarnp](https://www.facebook.com/sunar.sunarnp) [@/sunar\\_np](https://www.instagram.com/sunar_np) [/sunar\\_np](https://www.linkedin.com/company/sunar_np) [in/sunarnp](https://www.linkedin.com/company/sunar_np)



Sunar NP is a subsidiary of SUNAR Group Companies



# Biopolymer Solutions

PSNPEN2111

Sunar NP is a subsidiary of SUNAR Group Companies

[www.sunarnp.com](http://www.sunarnp.com)



# SUNAR NP Biopolymer Solutions

Sunar NP, established in 2014, is the youngest company within the Sunar Group of Companies. The company has a strategic importance in achieving the sustainability goals of the group with its activities; contributing to the circular economy and making live next generations in prosperity and health.

Sunar NP offers its biodegradable and compostable, NON-GMO, TÜV certified products that is produced as a result of meticulous R&D practices to replace imported biodegradable polymers.

As being the very first TÜV certified biodegradable and compostable polymer producer of Turkey, Sunar NP generates its product portfolio in the lights of customers' expectations and everchanging global trends. Thanks to its investments serving the ultimate goal of sustainable development and R&D practices, Sunar NP is the innovative power of Sunar Group Companies to achieve altogether community development goal.

## Certification



# SUNAR Sustainability Vision

To enable future generations live in prosperity in an habitable world, we live and encourage our society live sustainably, by gaining needed strength from nature. While making this dream come true, we ensure that we will reduce our footprint and increase our contribution "Sunar Bright Future Program" was planned and formed in the light of this vision.

www.sunarnp.com



## Compostable Biopolymer Compounds

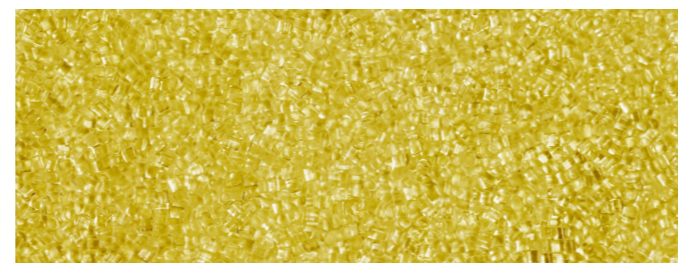
Product Code	Product Description	Product Form	Melt Temperature	Process Temperature	MFI (g/10 min)	Transparence	Ok Compost	Biodegradable	Ok Compost Industrial Certificate	Ok Compost Home Certificate
CP 101	Ready-to-use biocompound for film applications	Granule	110°C-125°C	120°C-170°C	2 - 5	Opaque	✓	✓	✓	✓
CP 168 K	Biocompound for applications requiring higher mechanical strength	Granule	110°C-125°C	120°C-170°C	2 - 5	Opaque	✓	✓	*	*
CP PHW	Whiter and brighter, thin micron, biocompound for applications requiring high mechanical strength	Granule	110°C-125°C	120°C-170°C	2 - 5	Opaque	✓	✓	*	*

Compostable biopolymer compounds; Developed ready to use, it is formulated for film production with blown film extrusion technology.

## Compostable Thermoplastic Starches

Product Code	Product Description	Product Form	Melt Temperature	Process Temperature	MFI (g/10 min)	Transparence	Ok Compost	Biodegradable	Ok Compost Industrial Certificate	Ok Compost Home Certificate
TP 101	Thermoplastic starch (TPS)	Granule	110°C-125°C	120°C-170°C	2 - 5	Translucent	✓	✓	✓	✓
TP 201	Mineral filled TPS thermoplastic starch polymer	Granule	110°C-125°C	120°C-170°C	2 - 5	Opaque	✓	✓	✓	✓

Compostable thermoplastic starch products; It has been developed as a starch-based raw material for compounds to be used in film extrusion applications, produced from renewable resources.



•Our developed products can be processed perfectly in blown film LDPE extrusion lines, sheet film extrusion lines, without any special requirements other than low extrusion temperature.

•Typical products that can be produced with our products include supermarket shopping bags, store shopping bags, garbage bags, hanger bags, industrial packaging, mulch films, etc. countable. However, it is not limited to these.

www.sunarnp.com

