



ecoflex[®] – the original since 1998

Certified compostable plastic

 **BASF**
We create chemistry



Original ●

The certified compostable polymer **ecoflex®**

ECOFLEX® IS THE FIRST CERTIFIED COMPOSTABLE POLYMER BY BASF ON A FOSSIL BASIS. IT IS ON THE MARKET FOR MORE THAN TWO DECADES.

Compared to conventional plastics, **ecoflex®** offers a decisive benefit: certified compostability. **ecoflex®** is an innovative pioneer in the field of biodegradable polymers, being an important raw material for many compostable and biobased plastics.

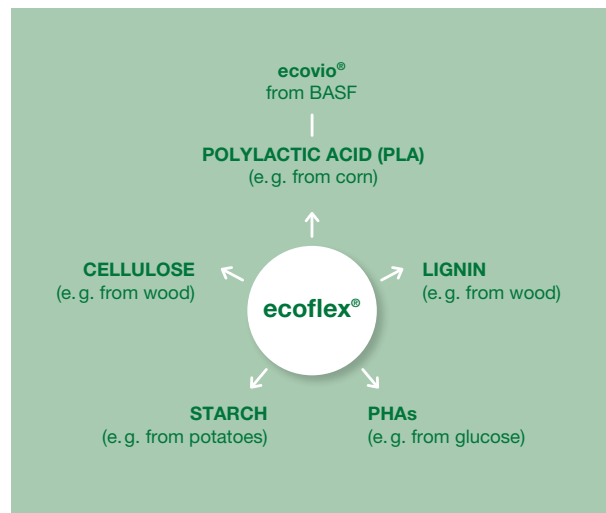
ecoflex® is:

- the ideal blend component for bioplastics
- certified compostable
- elastic as well as water and tear-resistant
- processable on conventional blown film machines for polyethylene
- printable and weldable
- suitable for food contact

ecoflex® – the optimal compound partner

ecoflex® is an ideal blend component for the production of plastics from renewable raw materials making many applications actually possible in the first place. Thus way **ecoflex®** provides the biobased and compostable BASF polymer **ecovio®** with special product properties such as flexibility and toughness.

Next to polylactic acid (PLA), other compound partners such as starch can be used in order to achieve a specific, characteristic profile for the application. A high content of **ecoflex®** is particularly suited for the production of flexible film products in the packaging area. Mechanical characteristics, such as stiffness or puncture resistance, can be varied and specifically adjusted.



Proven ●

The certified compostability of ecoflex®

THANKS TO A SPECIAL CHEMICAL STRUCTURE, ECOFLEX® CAN BE BIODEGRADED BY MICROORGANISMS AND THEIR CORRESPONDING ENZYMES.

Under the circumstances given in an industrial composting plant, the ecoflex® molecules are biodegraded within a few weeks.

In special certification procedures, independent institutes verify the suitability of bioplastics

in terms of biodegradability, compostability, compost quality, and plant compatibility.

ecoflex® offers various product grades that meet the following, international and national standards and regulations for industrial composting, among others:



European standard EN 13432,
Australian standard AS 4736



European standard
EN 13432



American standard
ASTM 6400



Japanese standard
GreenPla

Certification criteria

Chemical test	Compost quality	Disintegration and biodegradability
<ul style="list-style-type: none">■ Publication of all ingredients■ Adherence to limit values for regulated metals and certain elements, e.g. fluor	<ul style="list-style-type: none">■ Plant growth test■ Ecotoxicity test■ No negative impacts on the quality of the compost	<ul style="list-style-type: none">■ Disintegration in particles smaller than two millimeters within 84 days■ Biological biodegradation to water, CO₂ and biomass to 90% of the sample within 180 days

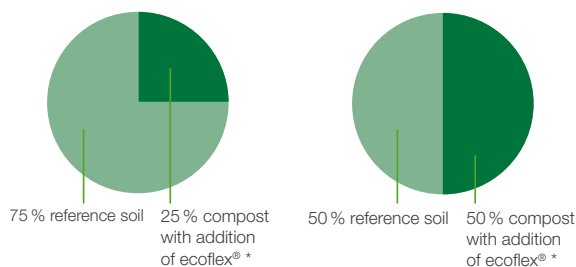
Safe ●

Ecologically tested and toxicologically safe

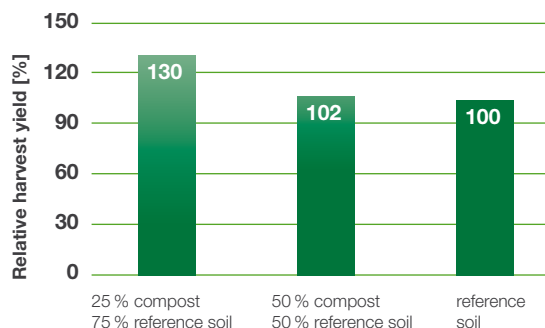
The plant growth test

The plant compatibility in the barley test is a key parameter for compost quality. This test looks at the effect of the test substance on the growth of summer barley. The following samples are prepared and used for testing:

A compost is recognized as plant-compatible, if in a mixture of 25% compost with 75% reference soil a 90% barley yield is achieved. In both variants, the test with ecoflex® shows no negative consequences on the barley yield.



* after 12 weeks composting



The Daphnia test

In this test, the pollutant-dependant immobilization of the Daphnia in solutions of different concentrations (series of dilutions) is used. Testing was carried out in accordance with DIN 38412 Part 30.

The control solution contains microorganisms that biodegrade ecoflex® enzymatically.

The stock solution to be tested also contains the degradation intermediates of ecoflex®. It is diluted step by step. For each concentration stage ten Daphnia are placed in the test solution (20 °C, pH 7.0 ± 0.2). After 24 hours, the number of Daphnia still swimming is counted. Even with a low dilution, as in the control solution, there are still at least nine Daphnia swimming. The test is therefore passed.

Quality ●

You can rely on it.

ECOFLEX® GUARANTEES VERIFIED QUALITY. ITS ECOLOGICAL PROPERTIES HAVE BEEN INVESTIGATED IN EXTENSIVE TESTS.

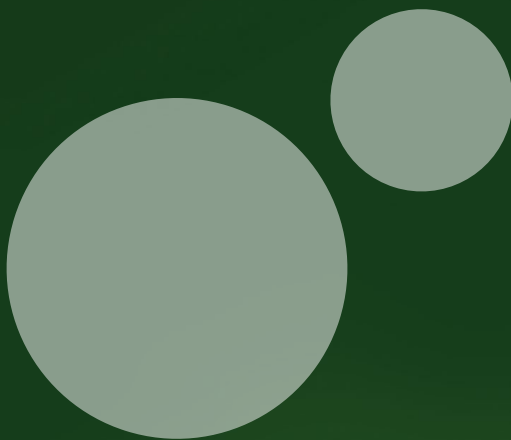
Scientifically recognized tests (plant growth test, Daphnia test, toxicological tests according to OECD directives) have proven in practice that ecoflex® has no negative consequences for nature or the environment.

Furthermore, ecoflex® is in its composition one of the few compostable polymers complying with the requirements of the European food contact regulation¹ as well as the requirements of the US Food Contact Substance Notification².

¹ Commission Regulation (EU) No. 10/2011 of January 14, 2011 on materials and objects of plastic, designed to be in contact with food

² According to Food Contact Substance Notification No. 907 of FDA





Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed. (July 2019)

**Further information on ecoflex®
can be found on the internet:**
www.ecoflex.basf.com

You can also write to us:
biopolymers@basf.com

Please visit our websites:
www.plastics.basf.com

Request of brochures:
plas.com@basf.com