We STARCH your bioplastics.

THERMOPLASTIC STARCH
Made in Austria.

100% BIO-BASED.
HOME-COMPOSTABLE.
SUSTAINABLE.

AGRANA AT A GLANCE

BRANCHES
- STARCH – FRUIT – SUGAR

TURNOVER
- 2.6bn EUR

EMPLOYEES
- More than 8,900

KEY MATERIALS
- Bio-based raw materials: maize, wheat, potato

KEY PRODUCTS
- For the plastic industry: Thermoplastic starch Amitroplast® for film blowing, injection moulding and 3D printing
- For the food & technical industry: More than 1,000 products from starch, sugar and fruit

AGRANA
adds value to agricultural commodities to produce top quality foodstuffs and numerous industrial upstream products. AGRANA is today the leading sugar company in Central and Eastern Europe as well as being a key producer in the Starch segment, of special products and bioethanol in Europe. In addition, AGRANA is the global leader in fruit preparations and a major producer of fruit juice concentrates in Europe.

R & D
The journey of implementing sustainable solutions to ensure the fulfillment of today’s and future demands is not yet over. AGRANA employs a significant number of scientists and technicians who conduct applied research and customer-oriented product development. Strengthening sustainable partnerships is our motivation, whereby confidentiality and technical support are guaranteed.
**AMITROPLAST® THERMOPLASTIC STARCH**

**Our expertise in BIOPLASTICS**

Starch is an amazing and very versatile material, making it an important base for modern bioplastics. In the production of bioplastics, AGRANA uses its many years of expertise in the production and processing of starch and supplements this with the knowledge of the needs of the plastics industry.

**AMITROPLAST® – an important ingredient in your bioplastic compound**

With the AMITROPLAST® product family, AGRANA provides a user-friendly thermoplastic starch for extrusion, film blowing, injection molding and 3D printing.

Our AMITROPLAST® products allow users to incorporate significant amounts of thermoplastic starch and thus, to create tailor-made polymer compounds that are processable by using standard polymer equipment and capable of adding extra value to innovative products.

**BIO-BASED. HOME-COMPOSTABLE. SUSTAINABLE.**

<table>
<thead>
<tr>
<th>OUR STARCH</th>
<th>OUR AMITROPLAST</th>
<th>YOUR COMPOUND</th>
<th>FINAL PRODUCT</th>
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</thead>
<tbody>
<tr>
<td>■ Non-genetically modified</td>
<td>■ Biodegradable</td>
<td>Combination of AMITROPLAST® with other bio-polymers and additives according to the specific requirements</td>
<td></td>
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<td>■ Renewable and regional raw material</td>
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<td>Tailormade products with customized properties</td>
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**AMITROPLAST® – your TPS for extrusion and injection**

**Extrusion**

- Carrier bags
- Fruit and vegetable bags
- Mulch films

**Injection Molding**

- Agricultural clips and guides
- Plant pots
- 3D print filament

**Final Product**

- Cutlery
- and many more

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**OUR STARCH**

- Non-genetically modified
- Renewable and regional raw material

**OUR AMITROPLAST**

- Biodegradable
- Home-compostable
- Bio-based
- Made in Austria

**YOUR COMPOUND**

Combination of AMITROPLAST® with other bio-polymers and additives according to the specific requirements

**FINAL PRODUCT**

Tailormade products with customized properties

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**Extrusion**

- Bags
- Film
- 3D-Print
- Plant pot
AMITROPLAST® – properties and applications

**BIO-BASED**
AMITROPLAST® has a bio-based carbon content of 100 % and allows you to reach easily 40 % and more in your products.

**Film**
A 25 μm film, based on a compound that consists of 50 % AMITROPLAST® and 50 % PBAT (polybutylene adipate-co-terephthalate) results typically in an extensibility of approximately 350 % and a tensile strength of 25 MPa.

**Stretching**
Stretching increases the tensile strength, whereby values in a range of 60 MPa are accomplished (depending on the applied draw-ratio).

**No smoke**
The new technology of AMITROPLAST® significantly reduces the development of smoke during film blowing.

**Injection Molding & Thermoforming**
AMITROPLAST® can be applied in injection molding and thermoforming processes.

CERTIFICATIONS

AMITROPLAST® is bio-based, bio-degradable and can be disposed of in a home or industrial composting environment.

BIO-degradation & composting
AMITROPLAST® is home-compostable and improves the compostability of your extruded and injected products significantly.

<table>
<thead>
<tr>
<th>BIO-DEGRADATION AT HOME-COMPOST CONDITIONS (28 °C AND LESS)</th>
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<tbody>
<tr>
<td><strong>start</strong></td>
</tr>
<tr>
<td><strong>15 μm film</strong></td>
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<tr>
<td>(50 % AMITROPLAST® and 50 % PBAT)</td>
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<td><img src="image1.png" alt="Image" /></td>
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<tr>
<td><strong>150 μm film</strong></td>
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<tr>
<td>(50 % AMITROPLAST® and 50 % PBAT)</td>
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<td><img src="image4.png" alt="Image" /></td>
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AGRANA STARCH.
GREENER PACKAGING.

MAKE YOUR PRODUCTS MORE SUSTAINABLE.

STARCH UP
THE FROG

THE FROG DOES NOT DRINK UP THE POND, IN WHICH HE LIVES.
NATIVE AMERICAN SIOUX PROVERB

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AGRANA.COM
THE NATURAL UPGRADE