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TORISE BIOMATERIALS

COMPOSTABLE AND BIODEGRADABLE

Bioplastics - From Nature Back to Nature

www.torisegroup.com



Choosing compostable & biodegradable bioplastic products, the Earth and Torise Biomaterials say to you: " Thank you." Traditional plastic products take hundreds of years, while degrading compostable & biodegradable bioplastic products take only a few months. Torise Biomaterials, as a compostable and biodegradable manufacturer, we are committed to presenting sustainable and high quality material selection.

CONTENTS

About Torise	01
Sustainability	03
Certifications	04
Compostable & Biodegradable Materials	05
Compostable & Biodegradable Commercial Bags	07
Compostable & Biodegradable Customized Bags	09
Compostable & Biodegradable Other Products	11

ABOUT TORISE

Torise Biomaterials is a manufacturer of compostable and biodegradable products. Since August 2010, we have been developing an entire range of sustainable alternatives to traditional plastics. Our Torise products are naturally made from resins that are derived from plant starches, vegetable oils & compostable polymers that are simply consumed by microorganisms that live within our soils.

Our manufacturing capabilities include a variety of products: modified resins, shopping bags, garbage bags, dog poop bags, produce bags, garment bags, courier bags, gloves, aprons, zip lock bags, cutlery, PLA cups and tableware.

These bags are certified by EN13432 (Din Certco), DINPLUS (Din Certco), OK Compost, OK Compost HOME (TUV Austria), ASTM D6400 (BPI), AS4736 and AS5810 (ABA).



Torise' Unique Advantages

- **Fully Biodegradable**
 - **Carbon Neutral**
 - **Net Zero Emission**
 - **Home & Industrial Compostable**
 - **FDA Food Contact Standard**
 - **Sustainable**
- Emission-free — VOC Emission Control
 Low Carbon Emission — Renewable Energy Sources
 Pollution-free — Compostable & Biodegradable Products



SUSTAINABILITY

Solar Energy: Torise has installed 2MW solar energy, which can provide 70% of the annual electricity consumption.

Wind Power: The local area of Torise is China Wind Power Generation Center, which can provide the annual remaining electricity consumption.

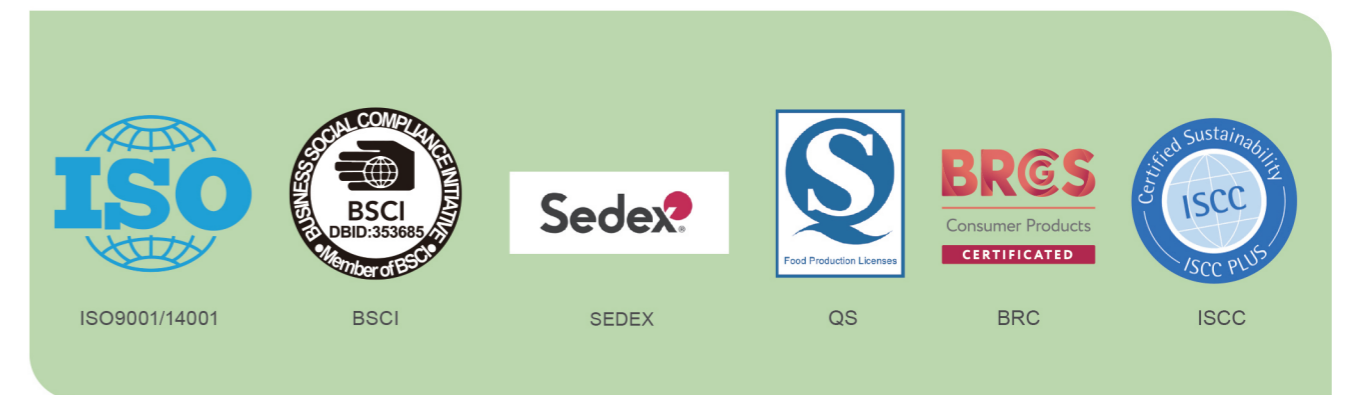


- All condensed water in our factory is recycled.
- The gas generated in the film-extrusion process is discharged after being handled with below measures:
 - Spray
 - Plasma
 - Photo-oxidation
 - Activated carbon adsorption
- The total VOC emissions of Torise is less than a small restaurant.

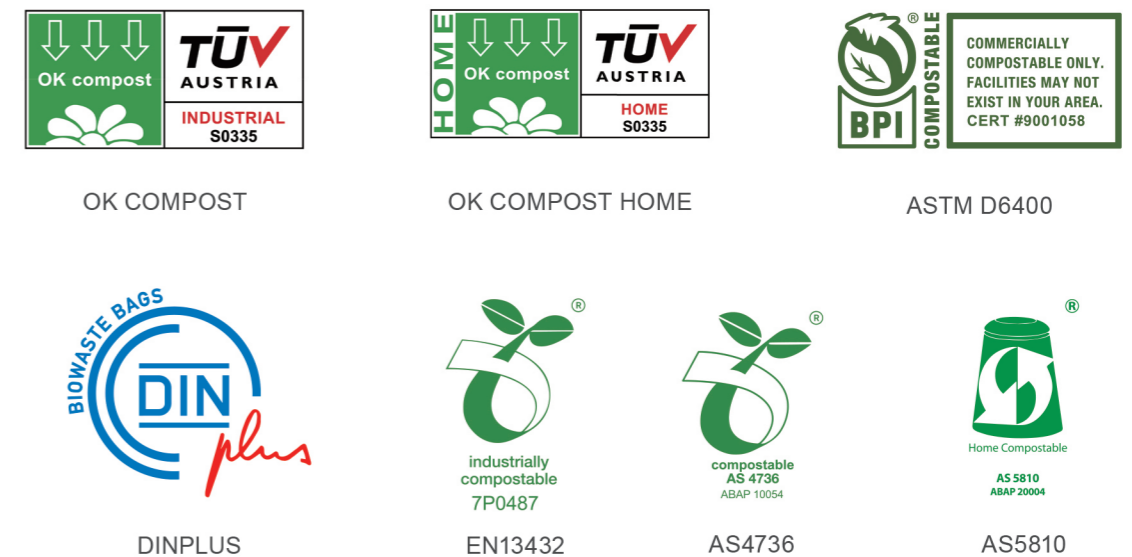
CERTIFICATIONS

As the professional manufacturer for compostable and biodegradable products, we apply high standards to be your reliable supplier. You can have full confidence in our products and service.

Company Certifications



Products Certifications



COMPOSTABLE & BIODEGRADABLE MATERIALS

Compostable and Biodegradable Resins are materials that can break down naturally, reducing their environmental impact. 'Biodegradable' means they can be broken down by microorganisms over time, while 'compostable' means that they break down into nutrient-rich compost under specific conditions.

PBAT

CAS NO. : 55231-08-8
Appearance: Natural White Resin

Items	Standard	Unit	PBAT
Density	ISO 1183	g/cm ³	1.22 ± 0.03
Melting Point	ISO 11357	°C	115~125
Melt Flow Index	ISO 1133	g/10min (190 °C, 2.16kg)	≤5
Tensile Strength at Break	ISO 527	MPa	≥18
Elongation at Break	ISO 527	%	≥500
Moisture Content	ISO 15512	%	≤0.1



PLA

CAS NO. : 33135-50-1
Appearance: Transparent or Translucent

Items	Standard	Unit	PLA
Density	ISO 1183	g/cm ³	1.25
Melting Point	ISO 11357	°C	140~170
Melt Flow Index	ISO 1133	g/10min (190 °C, 2.16kg)	2~20
Tensile Strength at Break	ISO 527	MPa	≥55
Elongation at Break	ISO 527	%	≥5
Notch Impact Strength	GB/T9345.1	KJ/M ²	≥2



TRBF90

Component: Corn starch, PBAT, PLA
Appearance: Light Yellow Resin



Items	Standard	Unit	TRBF90
Density	ISO 1183	g/cm ³	1.15~1.2
Melting Point	DSC, 10°C/min	°C	120~130
Melt Flow Index	ISO 1133	g/10min (190°C, 2.16kg)	≤8
Tensile Strength (MD)	ISO 527	MPa	≥ 20
Tensile Strength (TD)	ISO 527	MPa	≥15
Elongation at Break (MD)	ISO 527	%	≥180
Elongation at Break (TD)	ISO 527	%	≥400
Elmendorf Tear (MD)	ISO 6383	mN	≥1000
Elmendorf Tear (TD)	ISO 6383	mN	≥2500

TRBF96

Component: PBAT, PLA
Appearance: Nature White Resin



Items	Standard	Unit	TRBF96
Density	ISO 1183	g/cm ³	1.18~1.23
Melting Point	DSC, 10°C/min	°C	130-150
Melt Flow Index	ISO 1133	g/10min (190 °C, 2.16kg)	≤10
Tensile Strength (MD)	ISO 527	MPa	≥25
Tensile Strength (TD)	ISO 527	MPa	≥15
Elongation at Break (MD)	ISO 527	%	≥120
Elongation at Break (TD)	ISO 527	%	≥200
Elmendorf Tear (MD)	ISO 6383	mN	≥750
Elmendorf Tear (TD)	ISO 6383	mN	≥1000



These resins are often used as alternatives to traditional plastics, which can persist in the environment for hundreds of years. Compostable and Biodegradable Resins offer a more sustainable option, as they can return to the natural cycle and contribute to soil health when properly disposed of.

COMPOSTABLE & BIODEGRADABLE COMMERCIAL BAGS

Compostable bags quickly break down into organic matter in suitable environments, becoming a part of fertile soil.



T-shirt Shopping Bags



Produce Bags for Vegetables & Fruits



Bin Liners with Handles



Large Bin Liners



Domestic Bin Liners



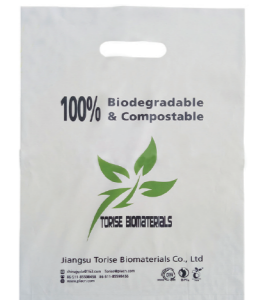
Drawstring Bags



C-fold Bin Liners

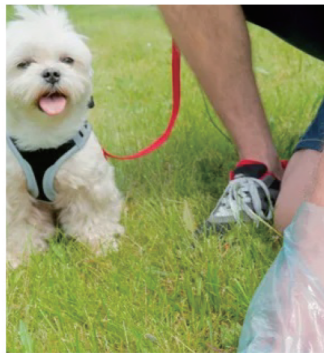


Die Cut Shopping Bags



COMPOSTABLE & BIODEGRADABLE CUSTOMIZED BAGS

Dog Poop Bags



Garment Bags



Drawstring Bags with Cotton Strip



Courier Bags



T-shirt bag



Flat-top bag



Die-cut bag



Sealable bag



Drawstring bag



Produce bag



Pet poop bag



Wave-top bag



Trash bag



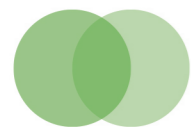
T-shirt bag on roll



Pet poop bag on roll

■ If you have your own brand, we can help manufacture products according to your requirements and specifications. We pay attention to communication and cooperation with you to fully meet customized expectations. We also have advanced production equipment and strict quality control system, which can ensure the quality and delivery time of customized products.

1. Select your product type and send your design drawing to our sales including size, material, color and printing.
2. Then we start to design and plate making.
3. After your confirmation for the details above, we start to arrange production.
4. When the production is completed, we will arrange the inspection of goods and packaging.





COMPOSTABLE & BIODEGRADABLE NEW PRODUCTS

We are proud to introduce our range of new compostable and biodegradable products, such as compostable cutlery, gloves, bagasse bowls, stretch film for wrapping pallet, drinking straws and cups, which are made from plant starch, vegetable oils & compostable polymers. They fit into our ideology 'From Nature Back to Nature'.

Torise Biomaterials is always making efforts to provide high quality products with competitive pricing so that more and more consumers can take the responsibility to protect our earth.

