

4 **ACES**
DISPOSABLE
PACKAGING



Information pack

Helping our customers provide more sustainable solutions across the beverage and food sectors.



Introduction

When it comes to looking into environmentally friendly options, there is lots of information out there.

To better help our customers make more informed decisions on recycling, biodegradable and other disposable options, we have consolidated some of the key facts.

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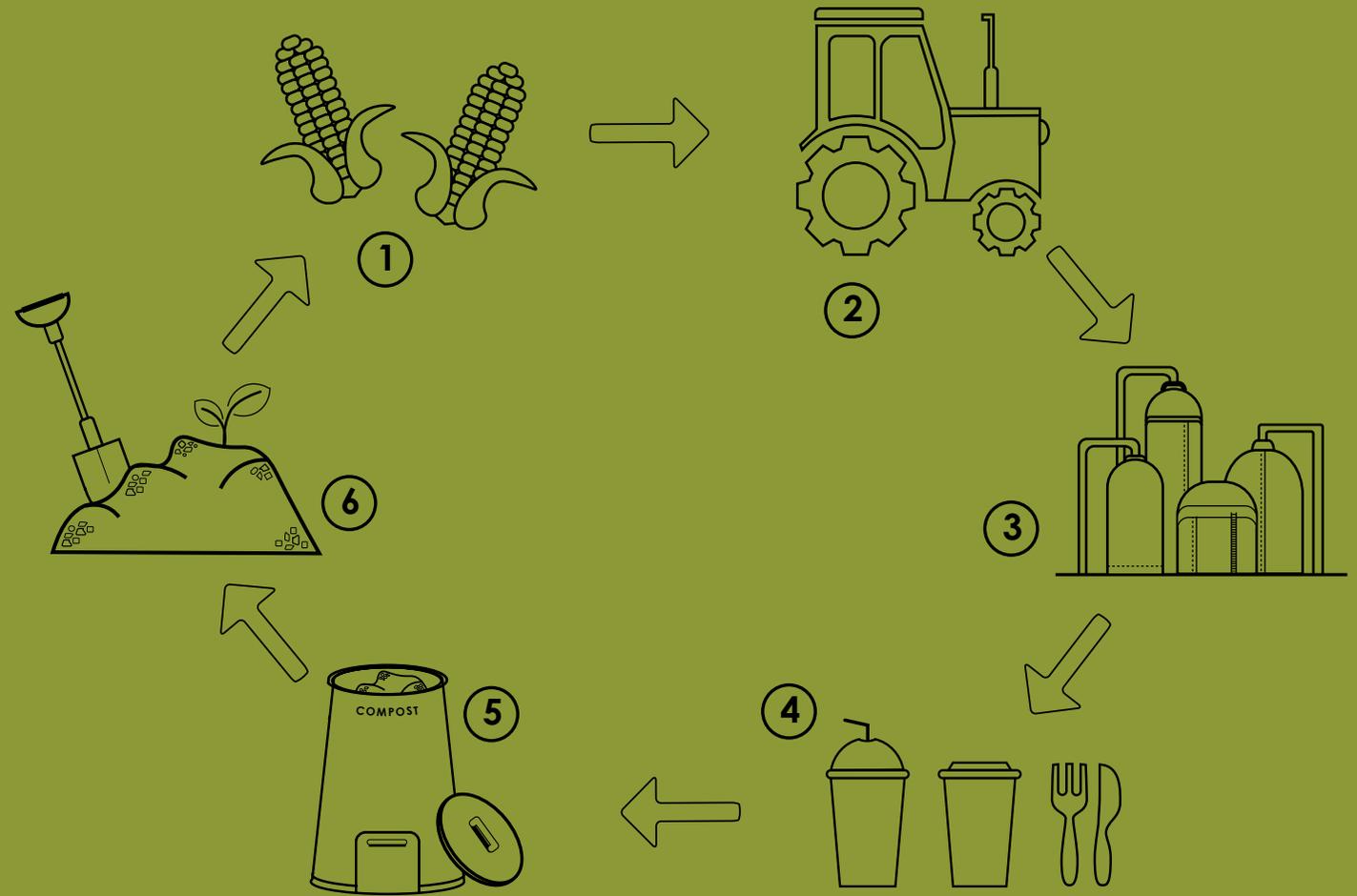
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THE BIODEGRADABLE PROCESS



1 The process starts with growing plants like corn, potatoes or sugar cane, anything with a high starch content, this is the material that replaces the petroleum.

2 The plants are then harvested and processed to extract their starches.

3 The starches are then processed further. This is done in bio-refineries where special enzymes are added or fermentation takes place to produce chemical compounds that react to make plastics.

4 The pellets of the starch compounds are used to make plastic cups or lining for paper cups as well as plates, utensils and other products. This product can now be used.

5 When the user is finished with the product they can place their biodegradable product in an organic waste collection bin.

6 The organic waste, when processed correctly, will compost and become mulch. This mulch when returned to the earth, can help new crops grow, completing the cycle and starting again.



What is PLA?

PLA stands for Polylactic Acid and is different from other plastics because of its renewable sources and biodegradable properties.

Why choose PLA over regular plastic?

The huge benefit of PLA as a bioplastic is its versatility and the fact that it naturally degrades when exposed to the environment. For example, a PLA

bottle left in the ocean would typically degrade in six to 24 months (approx), compared to conventional plastics which in the same environment can take several hundred to a thousand years to degrade.

PLA does not produce toxic fumes if incinerated should the product find its way to an incineration plant, unlike traditional plastics.

PLA products are made from corn starch which is renewable source. Traditional plastics are made from oil or natural gas which is a finite resource which will eventually run out.

ARE 4 ACES PLA CUPS COMPOSTABLE AND BIODEGRADABLE ?

Yes, 4 Aces PLA cups are compostable in industrial composting facilities, industrial composting 60° C + 95% humidity, in 45-60 days. Our cups are fully certified enabling us to display the seedling logo, this can also be integrated into our tailored bespoke cups artwork.

Our products come in plastic (cold cups, water cups and bar disposables) as well as hot and cold paper cups with PLA lining forms. Paper cups are available with compostable lids.

FREQUENTLY ASKED PLA QUESTIONS

WHAT IS THE DIFFERENCE BETWEEN COMPOSTABLE AND BIODEGRADABLE ?

Biodegradation is a natural process that converts organic matter into carbon dioxide, methane, biomass and water vapour. This only happens when the correct conditions are in place and the environment is sufficiently warm and moist.

Composting is an accelerated and controlled form of biodegradation where microbes are placed in an optimum environment to speed up the process.

WILL PLA COATED CUPS BIODEGRADE IN LANDFILL ?

Theoretically, yes. However, the conditions in the landfill site will determine what happens and how quickly the cups breakdown. This will greatly vary from site to site depending on moisture levels, temperature and humidity.



SYMBOLS - What do they mean?

The key criteria for materials and products to be compostable are:

They must biodegrade at a rate comparable to yard trimmings, food scraps and other compostable materials, such as kraft paper bags.

They must disintegrate, so that no large plastic fragments remain to be screened out.

BPI

The Biodegradable Products Institute (BPI) is North America's leading certifier of compostable products and packaging.

The institute's certification program ensures that products displaying the BPI logo have been independently tested and verified to the following scientifically based standards; ASTM D6400 and ASTM D6868.

Test methods and specifications found in ASTM D6400 and ASTM D6868 mimic what takes place in well-run municipal or commercial composting facilities.

FSC

The Forest Stewardship Council (FSC) is an international non-profit, multi stakeholder organisation established in 1993 to promote responsible management of the world's forests.

Forests are inspected and certified against strict standards based on FSC's 10 Principles of Forest Stewardship. These inspections are undertaken by independent organisations, such as the Soil Association, that are accredited by the FSC.

FSC is the only forest certification scheme endorsed by the major environment charities including WWF, Greenpeace and the Woodland Trust.

Using the FSC logo signifies that the product comes from responsible sources, and is environmentally appropriate, socially beneficial and economically viable.

Seedling Logo (compostable)

The Seedling is a reliable label for compostability. The logo and the certificate number printed on the product assists in the decision on purchasing and disposing a product.

Products which carry the Seedling logo are certified according to EN 13432 / 14995 standards by way of independently verified testing.

The Seedling-label is an established and accepted identifier in Belgium, Switzerland, Germany, The Netherlands, Poland, United Kingdom, and beyond.



**BPI®
Compostable**



FSC



compostable

THE RECYCLING PROCESS



1 The process starts with the product being placed in the recycling bin, when the user is finished with the item. This is then collected locally and sent to a recycling centre to be processed.

2 The product is then unloaded onto a conveyor belt where it is sorted, normally by hand, removing any non-recyclable plastic and other items.

3 The plastic is then cleaned. This is to remove any foreign substance like food from plastic trays and residue from bottles and liquid packaging.

4 The products are then sorted again, this time by colour.

5 The sorted plastic is then shredded and reformed into pellets.

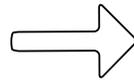
6 The pellets are fed into a mould where they are used to create new products like plastic furniture or other packaging.

SYMBOLS - What do they mean?

There are all kinds of symbols out there. See our friendly help guide to understand.

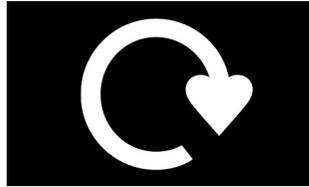
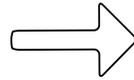
Widely Recycled

This symbol applies to all material that is collected by 75% or more of local authorities across the UK.



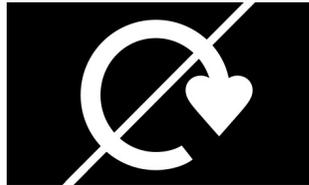
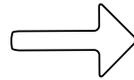
Check Locally

This symbol applies to all material that is collected between 20% - 75% of local authorities across the UK.



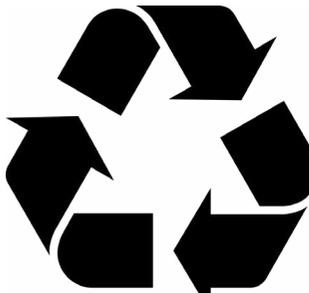
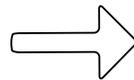
Not Yet Recycled

This symbol applies to all material that is collected by less than 20% of local authorities across the UK.



Mobius Loop

This indicates that an object is capable of being recycled. This does not mean it has been recycled yet or will be accepted at your local centre.



More information can be found out: www.recyclenow.com

Plastic Resin Codes

The seven plastic resin codes below are a way to identify the type of plastic in many everyday products, especially food storage containers and packaging.



PETE

PETE or PET

Polyethylene Terephthalate.
E.g. Our PET smoothie cold cup range.



HDPE

HDPE or PEHD

High-Density Polyethylene.
E.g. Hard wearing plastic bottles.



V

V or PVC

Polyvinyl Chloride.
E.g. Our PET smoothie cold cup range.



LDPE

LDPE or PELD

Low-Density Polyethylene.
E.g. Milk bottles and buckets.



PP

PP

Polypropylene.
E.g. Our main range of water cups.



PS

PS

Polystyrene.
E.g. Our Shot glasses and party cups.



OTHER

Other

Including Polycarbonate.
e.g water bottles and PC pint glasses.

Glossary

Bagasse	The pulp remaining after the extraction of juice from sugar cane or similar plants: used as fuel and for making paper.
Bio-plastics	A type of biodegradable plastic derived from renewable sources.
Biodegradable	To be decomposed by bacteria or other living organisms.
Composting	The biodegradability and disintegration of material in a controlled composting system under standard conditions, material turning to soil.
DIN CERTIFIED / EN13432	Din Certified defines the extent of the biodegradability that must occur over a specific time interval and the amount of disintegration required for the material to be described as compostable.
Disintegration	The physical falling apart of materials into very small fragments.
PLA	PLA stands for Polylactic Acid and is different from other plastics. The material is derived from renewable sources like corn starch and sugar cane.
Recycling	Convert (waste) into a reusable material.
Seedling logo	Products that have been Certified by the above can carry the seedling logo. This means that the products bio degrade completely in industrial facilities within 60 days.



Contact us

We hope this helps! If you have any other questions or would like to discuss your options, please Contact us by phone (01992 535 774) or by email (sales@4acesltd.com).