



# Apple scraps are a misplaced "leather" material

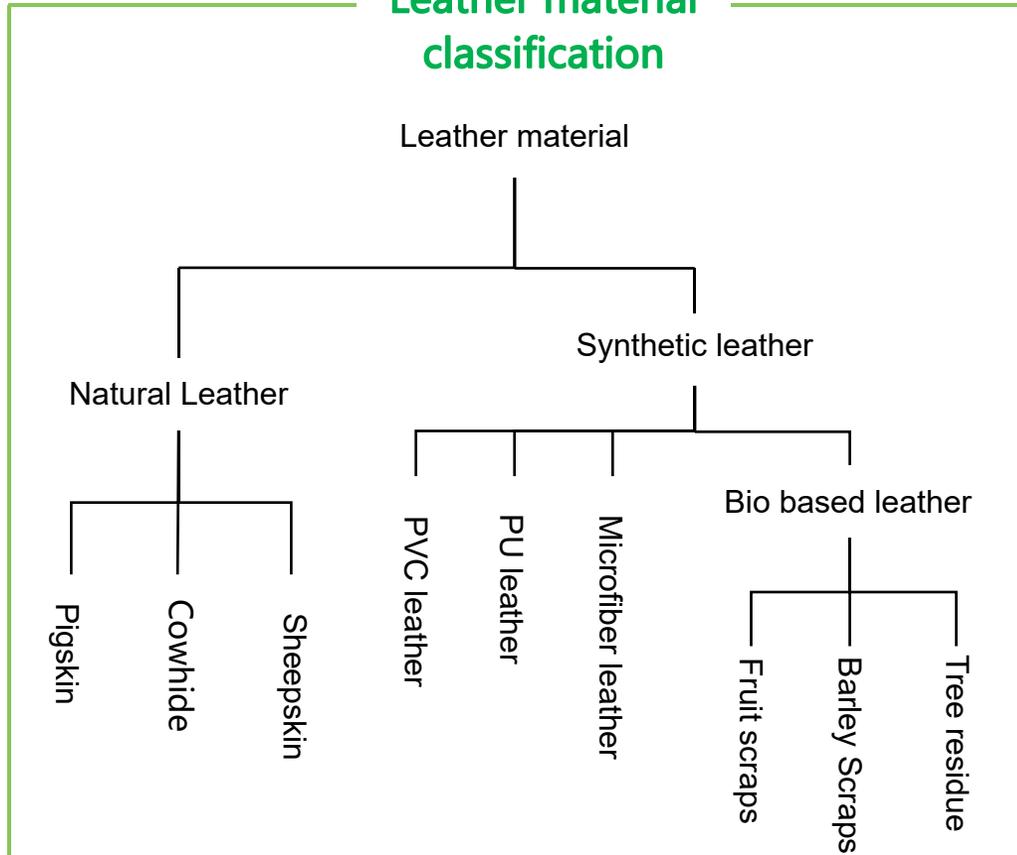
Vegan Leather-Apple Peel



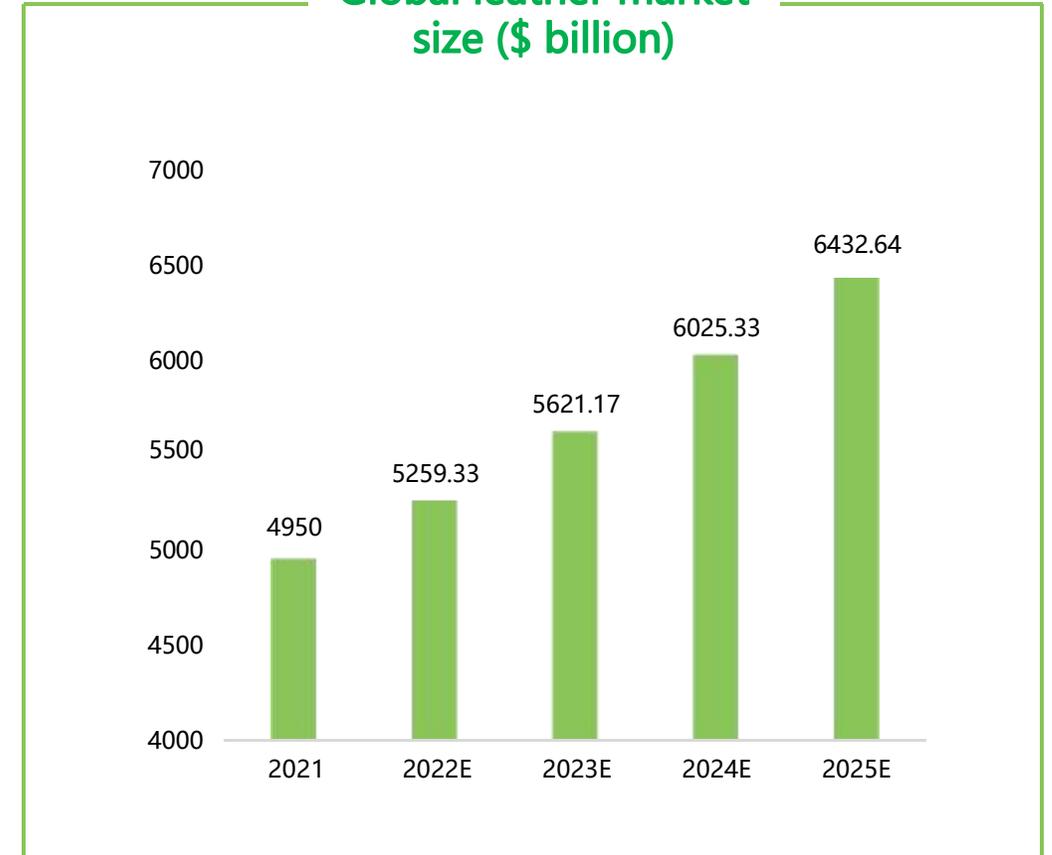
# Industry Analysis

As a common material in daily life, leather has a trillion dollar market space.

## Leather material classification



## Global leather market size (\$ billion)



Source: China Research Network, Cinda Securities, QYresearch

# Industry Analysis

## The global wave of bio-based materials has arrived as a premium alternative to traditional materials.

According to the McKinsey Global Institute, up to 60 percent of the material inputs in today's global economy could, in principle, be produced or replaced by biological means. Over the next 10 to 20 years, advances in the use of biology in materials, chemicals and energy production could generate \$200 billion to \$300 billion in growth for the global market.

### Specific comparison of bio-based materials to reduce carbon emissions

#### Bio-based materials are good at reducing carbon emissions and recycling

Biobased materials are new materials and chemicals made from renewable biomass such as grains, legumes, straw, bamboo and wood flour. Compared with the production of traditional chemical materials, bio-based materials effectively reduce carbon emissions in the production process.

Evaluation parameters (kg CO2 eq.)	Nylon - 66	Nylon -56 (bio-based material)
Global Warming Potential - Fossil	8.66	7.28
Global Warming Potential - Biogenesis	3.11	2.90
Global Warming Potential - Land Use and Land Conversion	1.73	1.20
Global Warming Potential - Total	8.69	4.38

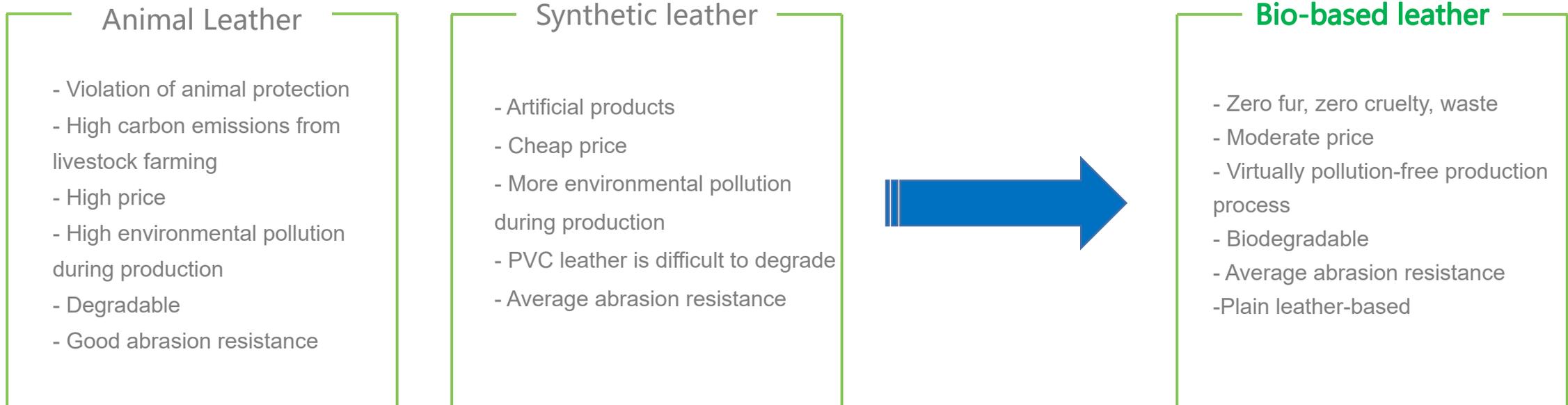
Source: China Research Network, Cinda Securities, QYresearch



# Industry Analysis

## Under the transformation of raw materials, bio-based leather can replace most traditional leather materials (animal leather, artificial leather)

Compared with other synthetic leather, bio-based leather is more scratch-resistant and has a softer surface. At the same time, it can be a good substitute for animal leather, reduce the feeding of cattle and sheep, etc., which has a strong positive environmental impact.



Source: Market Research 、 Emergenresearch 、 Grand View Research

## Vegan leather is gaining more popularity than ever before

In the global fashion search platform Lyst recently released the "2021 annual fashion report" pointed out that in 2021 consumers to "vegan leather" search frequency increased by 178%. Retail researcher WGSN Instock's data shows that from the first half of 2018 to the same period this year, the online availability of vegan leather products in the UK has more than doubled, and the US has increased by 54%.

Infinitem Global analysts predict that the global demand for vegan leather will continue to grow at an annual rate of 49.9%, and will reach \$89.6 billion by 2025. And the Asian market will become the industry's dominant.

This new type of leather products are gradually become fashionable.



Source: Lyst, Infinitem Global

**Vegan Leather is a type of bio-based leather, which refers to leather products that are 100% free of animal ingredients and animal footprints in their manufacturing materials and processes, and do not undergo any animal testing.**



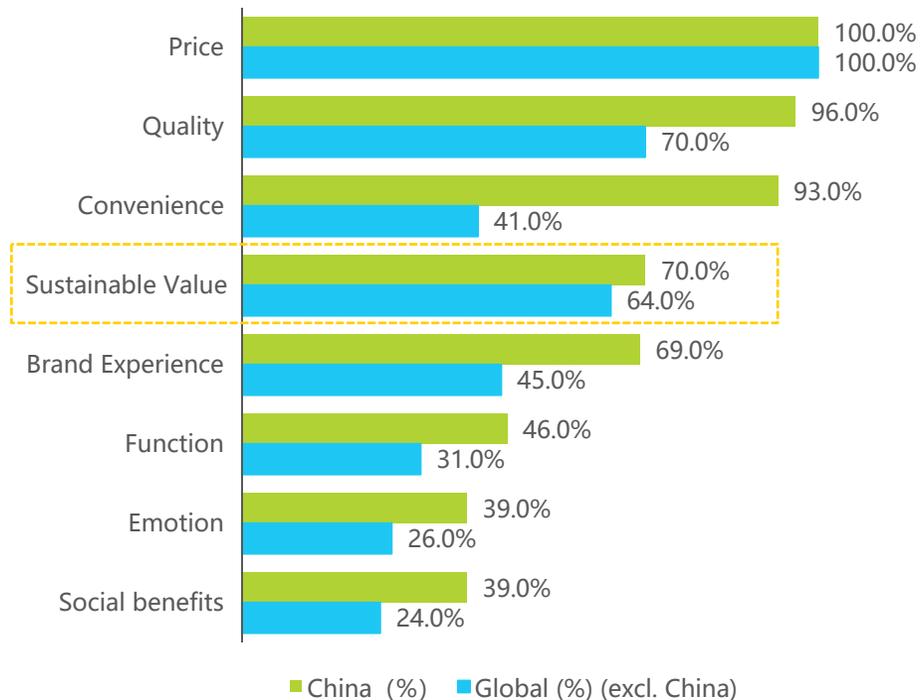
# Sustainable trend pushes vegan leather development

## Sustainability becomes an important consideration in consumer decisions

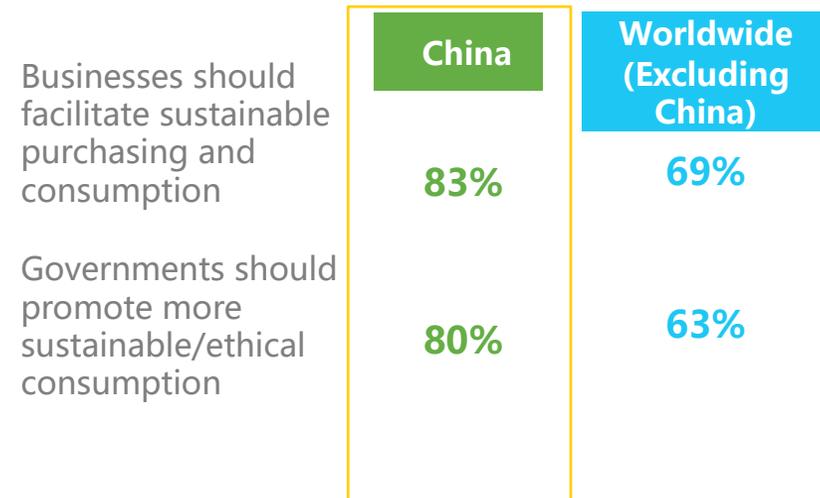
Sustainable value is ranked fourth in consumers' consideration when choosing a brand.

As consumers become more environmentally conscious, they will gradually become resistant to artificial leather. Leather based on plant fibers (such as apple peel, pineapple, cactus, etc.) and leather grown from cells such as mycelium leather has emerged.

**Factors consumers consider when choosing a brand  
(Degree of linkage to price)**



**Consumer understanding of sustainable consumption**



Source: Accenture



# Biodegradable vegan leather has potential, still driven by big brands

## Vegetable-based vegan leather

### —★Vegan leather★—

- Made from the leftover grape skins, stems and seeds of the winemade from

### —★ [Desserto] Vegan leather★—

- The leather is made from organic cactus leaves, which are added to non-toxic chemical substances and biological pigments.

### —★ [Apple Skin] Vegan leather★—

- Made from apple waste

### —★ [Pi atex] Vegan leather★—

- Made from bonded fibers extracted from pineapple leaves

### —★ [Fruitleather] Vegan leather★—

- Vegan leather made from mango

## Branding drives mycelium leather R&D

### —★ Mylo Mycelium leather★—

- For Spring/Summer 2022 Paris Fashion Week, Stella McCartney showcased its first mass-produced mycelium leather bag, the Frayme Mylo.



### —★ [Sylvania] Mycelium leather★—

- Hermès commissions materials company to develop mycelium leather "Sylvania" exclusively for it



Source: Ariadne Consulting



## Vegan leather made from apples

APPLE Leather alternatives are bio-based materials made using the leftover pomace and peel from the fruit juice and compote industry.

The Process: The material is created by first taking the recovered apple waste and reducing it to a powder. This biomass powder is then mixed with other natural agricultural fibres through a process where it is combined with polyurethane and coated onto a plant based material.

Generally the biobased content can vary, Generally the biobased content can vary,

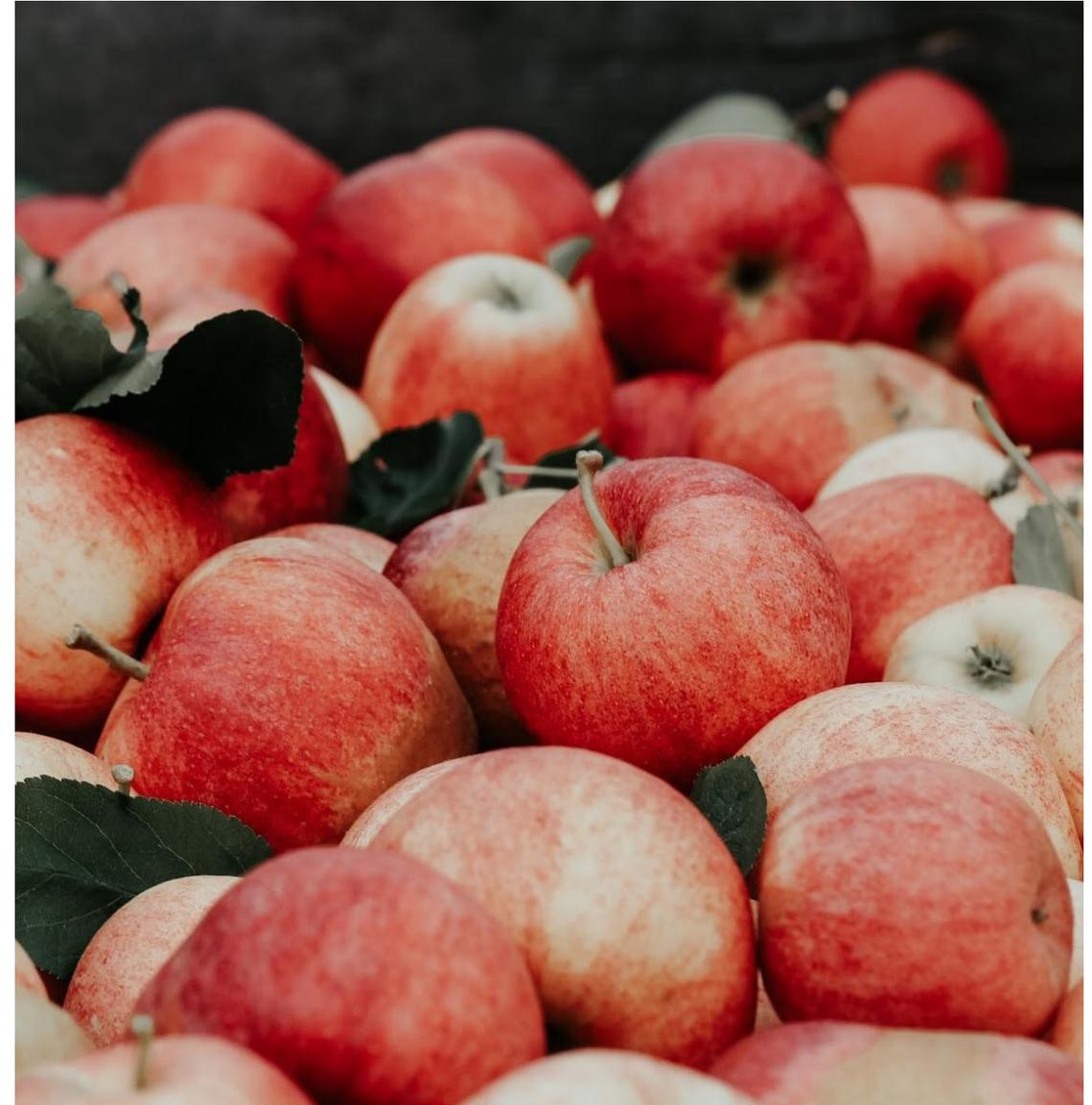
## Our material is made using 66% Bioproduct, more than the industry standard.

Even though apple peel leather is mixed with PU, it's still more sustainable than pure PVC or PU leather alone.

Compared to PVC, PU leather is considered more favorable. Although, fossil fuels are required to produce polyurethane and it emits carbon dioxide during the production process, PU doesn't produce the same dioxins that PVC does.

While PU coatings aren't natural, they help increase the durability and longevity of vegan leather products, which helps decrease the amount of wasted products in the long run.

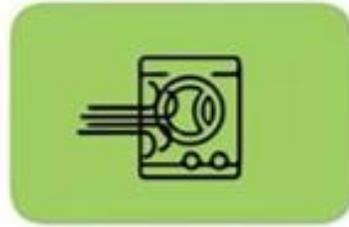
By partnering with C&T you can support the concept of a more sustainable product life cycle.



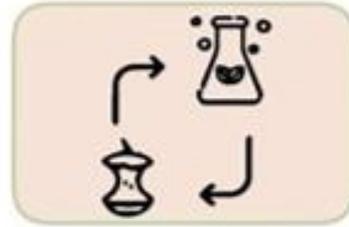
# 8 Steps to Recycling & Production



Recycle APPLE PEEL WASTE  
from juicc factory



Wash,dry and carry out nano  
transformation process



Biomass conversion procedure



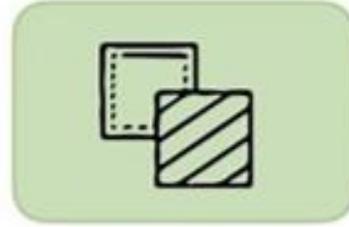
Mixed Apple Nanofiber with  
100% biobased yarn



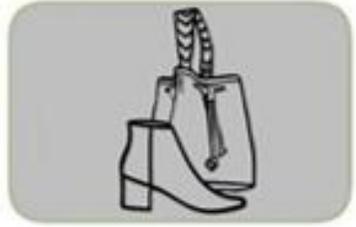
Mixed Apple Nanofiber with  
100% Waterborne PU



Pigmented coloring and  
coagulation



Deboss customize texture on  
the surface



Different applications of Apple  
Skin Vegan Biobased Leather

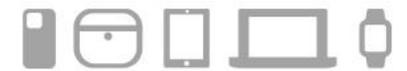
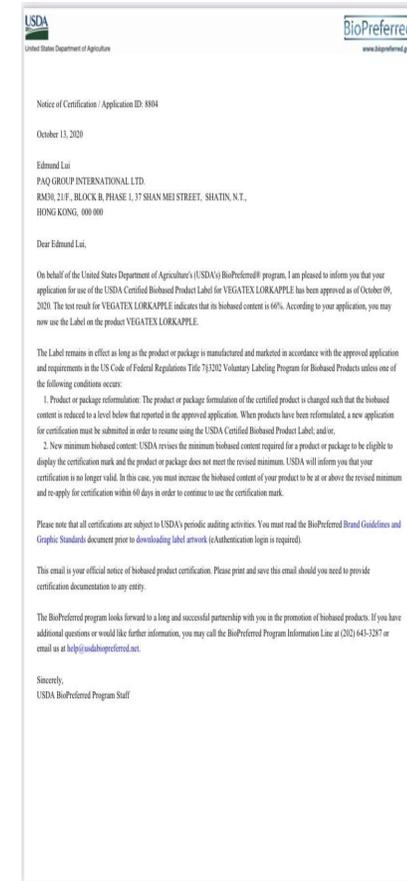
# Source: Ariadne Consulting

The price of the product is low, the form is similar to animal leather or artificial leather, and the quality of the product is equal to that of the big brand counterparts.



- Water-based PU is non-toxic, non-hazardous and biodegradable
- Used for joint stability, plasticity, enhance product performance, make the material form and animal leather or artificial leather
- Balance between practicality and market pursuits, future enhancement of bio-based content

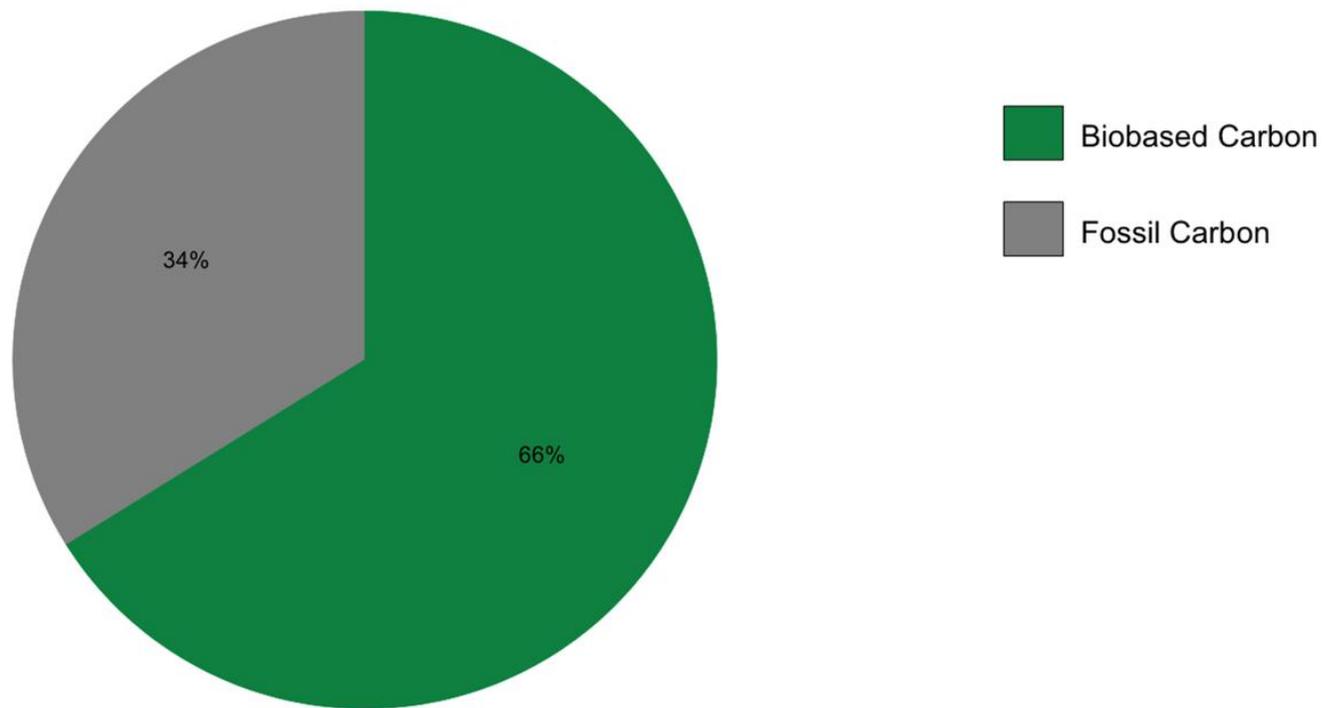
# Our Certifications



# Beta Testing Conclusion

RESULT: 66 % Biobased Carbon Content (as a fraction of total organic carbon)

Laboratory Number	Beta-568860
Percent modern carbon (pMC)	65.91 +/- 0.22 pMC
Atmospheric adjustment factor (REF)	100.0; = pMC/1.000



COPYRIGHT © 2022 Vegatex All rights reserved.



# Apple leather product recommendation

# Phone bags, card bags, phone cases made from apple leather

Feels soft and delicate, easier to maintain  
Almost indistinguishable from Classic Leather, it is slightly lighter and less prone to aging.

Material: Apple leather

Process: sewing, crimping

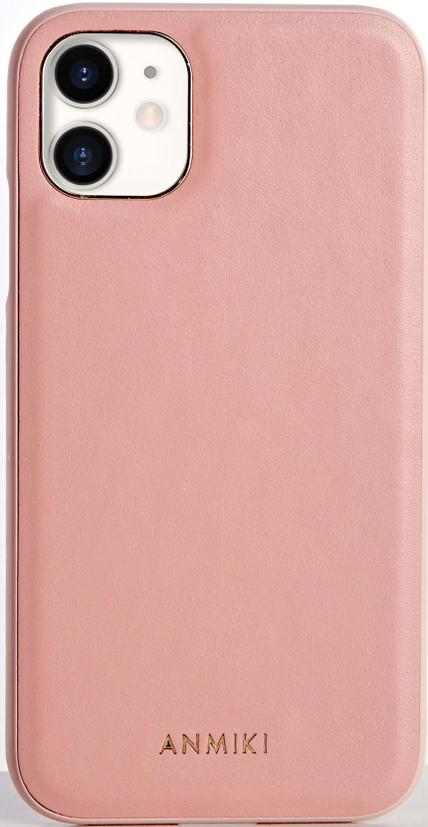
Model: can customize various product models





Customizable apple peels in different proportions up to 66%













**Quality leather products and environmental sustainability can go hand in hand.**

# 我们的优势



## High material reproducibility

Highly reproduce the effect of traditional leather, user acceptance is higher



## Advantages of raw materials

There is no bottleneck in the supply of waste materials, such as fruit residues, which are available in huge quantities and at low prices.



## USDA Certification

USDA certified with 66% plant-based content.



## Good physical properties

Vegan leather passed SGS and other third party tests.  
Have good physical properties



## Non-toxic and odorless

Vegan leather passed over 200 chemical tests



## Wide range of applications

Almost all leather applications are covered.



## Full utilization of waste

There is no residue in the production process, so the cycle is closed.



## Advanced Processes

The technology route is developed according to the domestic raw materials and production environment, and can achieve mass production quickly and at low cost.



## R & D design advantage

With professional R&D team, we can design different kinds of products such as bags, card cases and cell phone cases.



## Price advantage

Our price advantage is very obvious compared to the products of well-known companies of the same type.



# Hey!

**We are the manufacturer for smartphone & laptop accessories and professional on quick customized production solution.**

**If you also concern about the customized products, please don't miss our ODM service. We believe we can bring value to you.**

## Feel free to contact us.



Website : [www.ctworld168.com](http://www.ctworld168.com)

Tel : 020-89014309 / +86-17665023206

Address : Room 501,Building 3,No.539,Shibei Industry Road,Dashi Street,Panyu District,Guangzhou

Copyright © 2022 C&T, All Rights Reserved

Published by: C&T Marketing Operations Center

Data Collection: Siting Zhong

Product planner: Anna,Zehui Wu

Photographer: Bicheng Xu

Designer:Yunlong Cai ,Yixin Zeng