



X

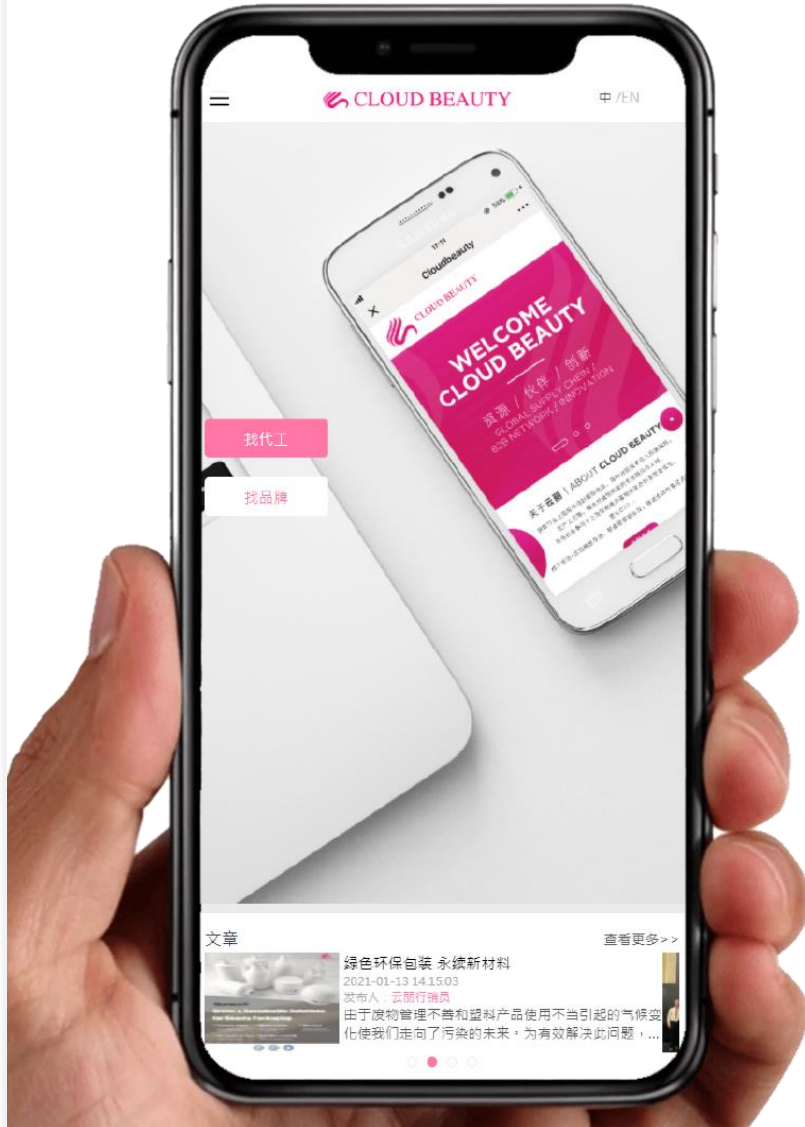


EcoCa+

From natural waste to
Sustainable Packaging



Cloud Beauty Innovation Hub



Spin-off from Aromatic, a 40-year cosmetic packaging supplier. We promote startups and SMEs to strengthen their R&D while thrive their international marketing presence.

Cloud Beauty targets 3 business sectors:

- ✓ Beauty
- ✓ Health
- ✓ Sustainable Life

Global Challenges

- Majority of produced plastics are single-use plastics, which, coupled with a throw-away culture, leads to the accumulation of plastic waste and pollution, as well as the loss of a valuable resource.
- Ignorance on the importance of end-of-life management of plastic.
- Lack of the policy and actions for a circular economy in reducing plastic waste pollution.



Natural Waste

- Turning wastes from agriculture, fishing or mining to industrial purpose.
- These wastes are composed of different chemicals. We are able to purify the elements to extract the target elements only.
- We have analyzed wastes from:
 - Stone
 - Egg Shell
 - Rice husk
 - Oyster shell



Calcium Carbonate CaCO_3

- An inorganic mineral commonly found in rocks, egg shells, snail shells, oyster shells, or pearls.
- It has been applied in different industries as a (an)...
 - Inexpensive calcium supplement
 - Neutralizer of acid to migrate pollution such as water or soil quality.
 - Barrier in the material of personal protection (mask and coverall)

The Source

1st Generation



Stone

2nd Generation



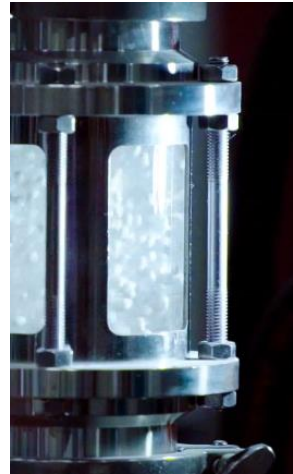
Egg Shell

- ✓ Lighter Weight
- ✓ Possible to mix with recycled plastic (PCR)
- ✓ Possible to mix with biodegradable polymer (e.g. PBHT, PLA)
- ✓ Adding anti-bacterial property

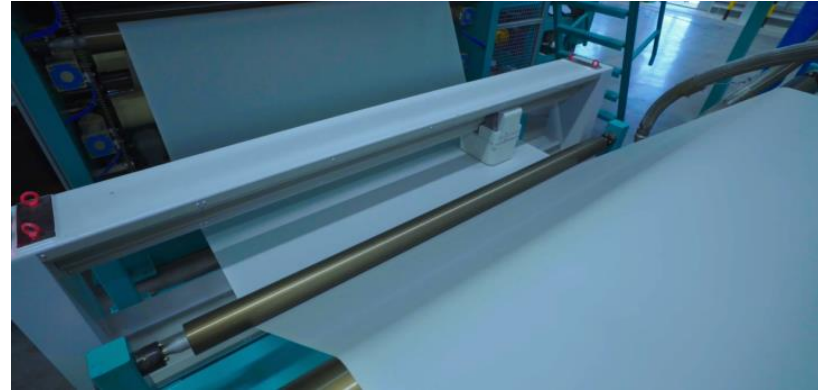
The Process



CaCO₃ Powder



Compounding



Casting



Pelleting



FILM

- Bag
- Tape



BOARD

- Carton



MASTER BATCH

- Injection
- Blow
- Extrusion

Fire Effluents Test



Gas Component (mg/g)	1	2	3	Avg	Reference Concentration (mg/g)
CO	36.56	39.66	38.11	38.11	1380
CO ₂	567.59	518.84	536.25	540.89	72000
HF	ND	ND	ND	--	25
HCl	ND	ND	ND	--	75
HBr	ND	ND	ND	--	99
HCN	ND	ND	ND	--	55
NO, NO _x	ND	ND	ND	--	38
SO ₂	ND	ND	ND	--	262

ND indicates: Non Detected

Furnace Temperature: 600°C

Tested by: SGS

Anti Bacterial Test 1



Organism	Contact time	Counts of the BK at contact time (CFU/mL)	Counts of the sample at contact time (CFU/mL)	Anti Micro Activity (%)
Escherichia Coli	24 hours	3.6×10^8	1.0×10^0	> 99.9
Staphylococcus aureus subsp. Aureus	24 hours	8.5×10^4	< 1	> 99.9
Tested Subject: Eco Calcium Powder				
Tested by: SGS				

Anti Bacterial Test 2



Organism	Average of the number of viable cells of bacteria on blank sample after 24 hours (CFU/cm ²)	Log average of the number of viable cells of bacteria on blank sample after 24 hours (CFU/cm ²)	Average of the number of viable cells of bacteria on test sample after 24 hours (CFU/cm ²)	Log average of the number of viable cells of bacteria on test sample after 24 hours (CFU/cm ²)	Antibacterial Activity (R)
Escherichia Coli	2.5 x 10 ⁵	5.39	< 1	0.00	5.39
Staphylococcus aureus subsp. Aureus	6.3 x 10 ²	2.8	< 1	0.00	2.8
R shall be ≥ 2.0 for Antibacterial effectiveness.					
Tested Subject: Eco Calcium Sheet					
Tested by: SGS					

LUXE PACK SHANGHAI



Category 1

CLOUD BEAUTY INNOVATION HUB

CLOUD BEAUTY INNOVATION HUB won the best sustainable packaging solution with its STONECO-TECH™.

Stoneco-Tech is a breakthrough of packaging material. It's composed 70% CaCO₃ (calcium carbonate), which can be commonly found in stones and rocks. It results in high resistance to water, temperature, acid acid-base, and active chemicals.

Award



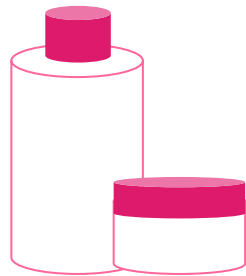
Winner of Luxepack in Green Award 2020

Ready to Market Products



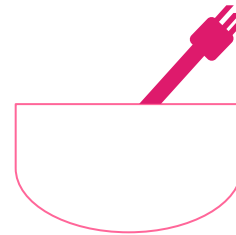
BEAUTY PACKAGING

Bottle
Jar
Cap
Spatula



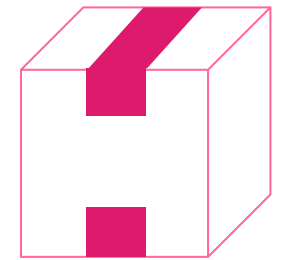
TABLEWEAR

Disposable Spoon
Disposable Fork
Disposable Stroll
Disposable Plate
Disposable Bowl
Lunch Box



PACKING MATERIAL

Carton
Tape



Some existing products



CaCo3 from
eggshell

30% Eco Ca+
70% PCR-PE



Some existing products



Some existing products





THANK YOU!



aromatic@aromatic.com.tw

<https://aromatic.com.tw>