

# Eco-shell™ Elevates Traditional Calcium Carbonate to New Eco-Friendly Heights

*Eco-shell™ bio-calcium has applications and qualities that limestone calcium carbonate, oyster shell bio-calcium, and even bioplastics can't match.*

TAIPEI, TAIWAN, September 20, 2023 /EINPresswire.com/ -- [Eco-shell™](#) has been garnering a lot of enthusiasm in the plastic packaging industry with its certified recyclability and carbon and plastic reduction. Its patents in the US, UK, Taiwan, China and Australia add to this excitement, as do its reported 60-70% carbon reduction (compared to virgin plastic) and extensive applications. Despite this positive attention, eco-shell™ is also causing a bit of confusion, with many asking if it is simply calcium carbonate ( $\text{CaCO}_3$ ) but from a different source. The answer to this question is simple: eco-shell™ is on a completely different level than limestone calcium carbonate.

Eco-shell™ should not be confused with traditional, mined limestone  $\text{CaCO}_3$ .

Traditional, mined  $\text{CaCO}_3$  is ubiquitous in the plastic packaging industry, with some even touting its eco-friendliness. How much traditional  $\text{CaCO}_3$  can be considered a plastic or carbon reducer, however, is brought into question when you look a bit closer at its properties.

Traditional  $\text{CaCO}_3$  is a mined product that does not come from a sustainable source. In fact, there are [concerns related to limestone](#) mining's effect on groundwater contamination, disruption of ground stability, harm of biodiversity, the use too much fossil fuel energy in its acquisition and production, and its dust related health concerns.

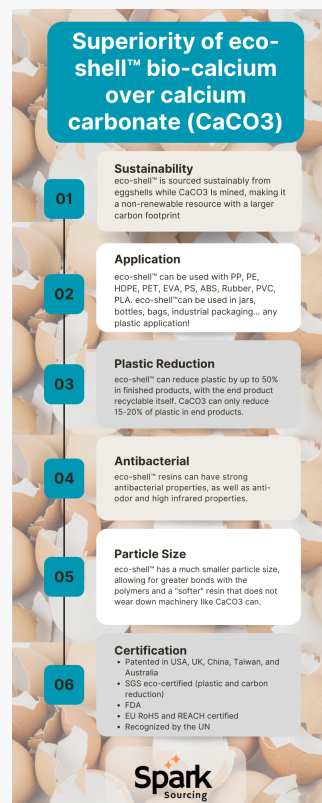


In contrast, eco-shell™ is not only sustainable, but it cleans up an agricultural and food production waste product in the process. The eggshells are collected and through the multi-step, patented process, are converted into a powder that is then pelletized for use in plastic compounds. Reducing waste adds to its intrinsic carbon reduction, which is why it has received eco-certification as a waste, plastic, and carbon reducer. Traditional CaCO<sub>3</sub> does not have such certification.

Looking deeper at the structures of eco-shell™ and traditional CaCO<sub>3</sub>, the former is much more porous which gives it much greater surface area, which results in greater bonds with plastic polymers. This allows eco-shell™ to not only be used at a greater percentage in plastic compounds, but also be used with more types of plastics and in different applications. Eco-shell™ also provides much superior mechanical properties than traditional CaCO<sub>3</sub>, and it can be used with ocean bound and recycled plastics to actually improve the quality of the end product.

Another area where eco-shell™ distances itself from traditional CaCO<sub>3</sub> is in anti-microbial activity. Eco-shell™ contains calcium oxide (CaO) which provides it with antibacterial power even in its basic level. Eco-shell™ also offers a special, concentrated resin that is certified to be 99.9% effective against germs. Traditional CaCO<sub>3</sub> does not have anti-microbial properties.

What about bio-calcium sourced from oyster shells?



Infograph showing superiority of eco-shell over CaCO<sub>3</sub>

Eco-shell™ is not alone in providing a sustainable source of bio-calcium. Oyster shells are another popular source, but some distinctions here also need to be drawn.

One concern about oyster shell-derived bio-calcium is that it is very difficult to control the pollutants and toxins that oysters come into contact with in the oceans, which could be passed along in the resins created from their shells. Radiation in the ocean is another serious concern. It is much easier to control purity and cleanliness in agriculture and food production, and purity is easier to guarantee with eco-shell™.

Consistent quality is also much easier to guarantee with eggshells, which are much more uniform than oyster shells. Moreover, eggshells are much more plentiful, quickly produced, and easier to scale up for production if needed. Oyster shells do not have this flexibility.

Much like traditional CaCO<sub>3</sub>, oyster shell bio-calcium can also harm expensive plastic manufacturing equipment due to its very tough nature. There is no concern of eco-shell™ causing such damage.

With eco-shell™, there is also no fear of receiving counterfeit product. It is patented, certified, and very well documented. The same cannot be said for oyster shell bio-calcium. There is some oyster shell bio-calcium in the market priced at just a smidge over traditional CaCO<sub>3</sub>. Considering that the grinding process alone would be more expensive than traditional CaCO<sub>3</sub>, such pricing raises serious concerns of its authenticity. Some other oyster shell bio-calcium claims to have bio-material in it to satisfy certain requirements for purchase in various markets, even showing reports of positive Carbon 14 tests. Such Carbon 14 markers only come from plant matter, however, which the oyster would only have from seaweed or algae accumulating on its shells. This plant life would necessarily be burned off when heating the grey/brown oyster powder at a temperature high enough to create the nice, bright white powder needed by manufacturers. There is no way any plant material could be detected in such an end product.

This is an exciting but challenging time in the packaging and plastics industries, as we look for ways to maintain what is best about plastic which also minimizing or erasing the harm it causes. The industry is starting to realize that bioplastics are not the answer we hoped for. They are expensive, unrecyclable, and with the majority still going to landfills or getting incinerated, are not bringing about the carbon reduction that was hoped for. Many other “greenwashing” solutions are popping up claiming plastic reduction, but in truth offer zero carbon reduction.

Eco-shell™ emerges as a fully certified, documented, and patented solution for real carbon and plastic reduction that has an ideal, recyclable end-of-life for products made with it. Eco-shell™ epitomizes the mantra of Reduce, Reuse, Recycle, and is a clear choice over traditional CaCO<sub>3</sub> for brands and manufacturers wanting to make an impactful reduction in carbon.

About [Spark Sourcing](#)

Spark Sourcing, a leading distributor of innovative solutions for sustainable packaging and product development with operations in Taiwan, Canada, and the UK, is the exclusive representative of eco-shell™ for North America and Europe. The Canadian branch is registered as an Indigenous, female-owned business. Spark envisions a circular economy for plastics as the path forward for both the plastic industry and our planet.

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