



Growing our portfolio of premium beauty actives with the addition of naturally-derived ceramides

With the acquisition of Solus Biotech, which completed in July 2023, we added naturally-derived ceramides to our broad offering of premium beauty actives ingredients. Ceramides help form a protective layer, reinforcing the skin's natural barrier and improving hydration while reducing free radicals and protecting against damage from pollution. Although ceramides are naturally found in the skin, their concentration depletes with age, and they are increasingly recognised as a 'miracle' ingredient with the number of new personal care products containing ceramides doubling over the last five years. The acquisition not only broadens our beauty actives offering to include ceramides, but also expands our biotechnology capabilities and brings a new site in South Korea which will act as a springboard into premium markets in Asia.

Enabling customers to make purchasing decisions aligned to their environmental goals

In October 2023, we launched product carbon footprint (PCF) statements for around 1,300 of our Beauty Care ingredients, representing about three quarters of the revenue for our Beauty Care portfolio. The statement is a cradle-to-gate life cycle assessment that provides our customers with the total greenhouse gas emissions (GHG) associated with the ingredient, from sourcing the raw materials through to when the final product leaves our factory gates.

PCFs allow customers to make more informed purchasing decisions as they work towards their own decarbonisation plans. This means customers can assess the benefits of using Croda ingredients in terms of the GHG impact on their finished product.

For Croda, PCFs enable us to see our GHG emissions at a product level so we can understand where our product portfolio is successfully helping us meet our decarbonisation targets and opportunities to further reduce our impact. They will also help us prioritise the carbon claims of new ingredients as a source of competitive advantage.

The Croda proprietary tool automates the calculation of cradle-to-gate product carbon footprints and was created by a team comprising data scientists, mathematicians, and accountants as well as sustainability specialists.



Leveraging biotechnology to deliver advanced ingredients with improved sustainability profiles

Utilising biotechnology, including plant cell cultures and the fermentation of microorganisms, to create innovative ingredients is not new to Croda and is something we have been doing in our Beauty Actives business for more than 30 years. By enabling us to exploit the cellular and biomolecular processes of living organisms outside of animals, biotechnology makes it possible to produce alternatives to ingredients which are currently manufactured with synthetic chemistry using solvents, catalysts and in some cases hazardous materials. The use of biotechnology therefore offers the potential to develop innovative active ingredients, using natural ingredients with sustainable supply chains, while improving certain processes to deliver time savings and higher yields.

In 2023, we launched Luceane™, a patented active ingredient that counteracts hypoxia ageing by stimulating and protecting cell respiration and energy production, while also inducing micropollutant removal within cells. Studies have shown Luceane™ slows down the ageing process by five years after just one month of application, reducing signs of fatigue and improving skin radiance. Manufactured using the fermentation of marine microorganisms, Luceane™ is 100% natural, fully biodegradable, RSPO certified and uses sustainable manufacturing with complete waste recovery, demonstrating how our smart science can deliver advanced ingredients sustainably.