



**Special
chemicals**

SCH AlgaeTech™

Sustainably produced
biotechnological active ingredients
derived from microalgae

Part 1

A sustainable solution



Origin

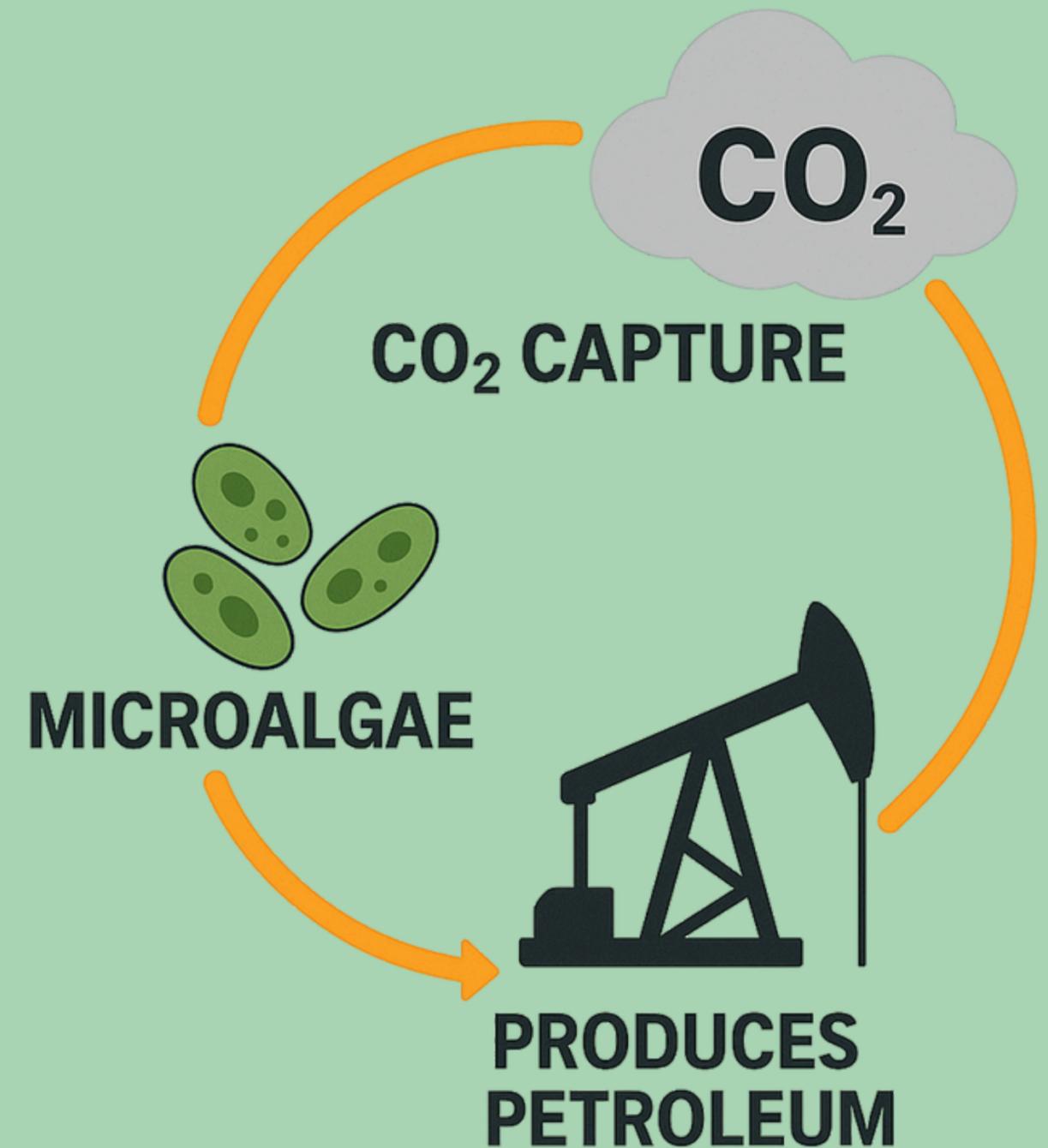
About 20 years ago, microalgae emerged as a response to two major challenges that were foreseen:

- **Oil** was going to run out.
- **Excess CO₂** was beginning to become a serious problem for the planet.

THE SOLUTION: MICROALGAE

The oil we know actually comes from microalgae that existed millions of years ago.

Today, these microalgae are still photosynthetic organisms, so they need to capture CO₂ to survive. They are a sustainable and scalable alternative.



Background

Open ponds

At first, traditional open pond technology was used, but it is now obsolete.

The main challenges in implementing this technology on a large scale were:

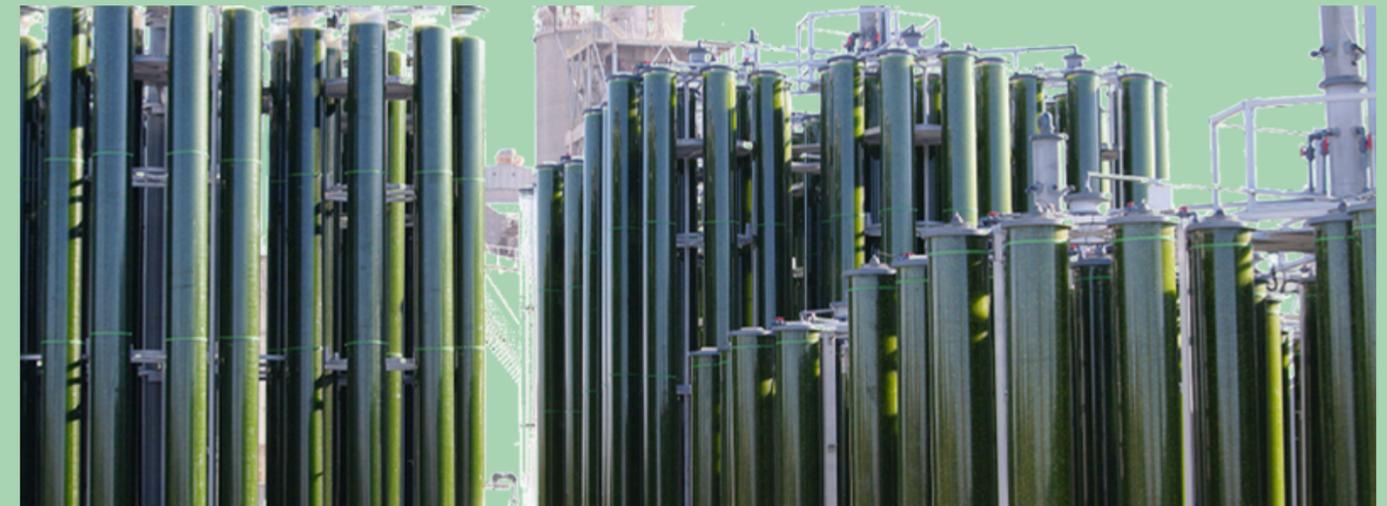
- High contamination
- Very few usable strains (mainly Spirulina and Chlorella)



Closed photobioreactors

Eventually, closed photobioreactors emerged, a much more sophisticated and scalable technology:

- Waste gases from the industry itself were used.
- €50 million was invested, and 15 patent families were developed.
- Major technical successes were achieved (crude oil certification, collaborations with L'Oréal..)



But... oil didn't run out; what did happen was that the price fell, and with that, the company had to close.

Unleashing the potential of microalgae

A multidisciplinary team (chemists, biochemists, engineers, financiers...) was formed to develop a new technology and obtain two patents.

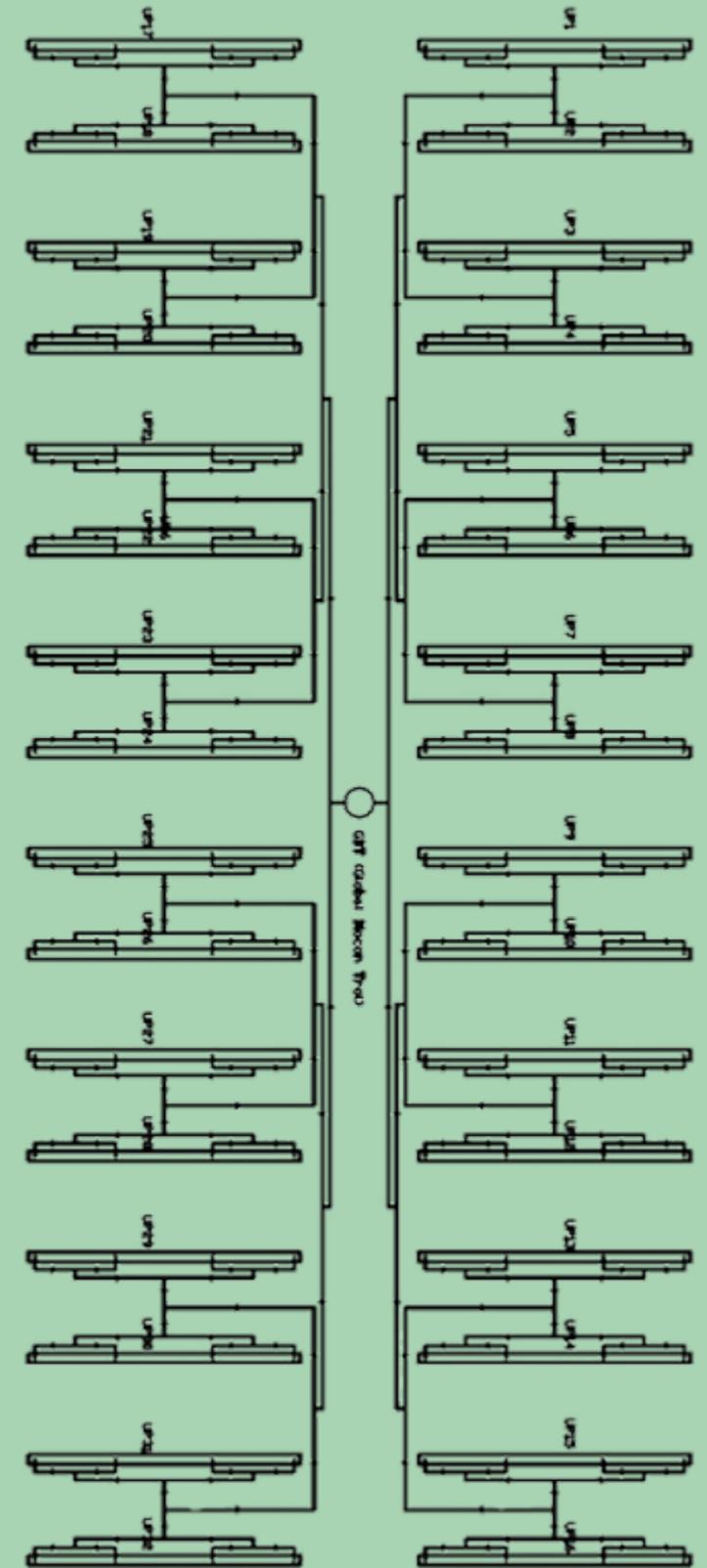
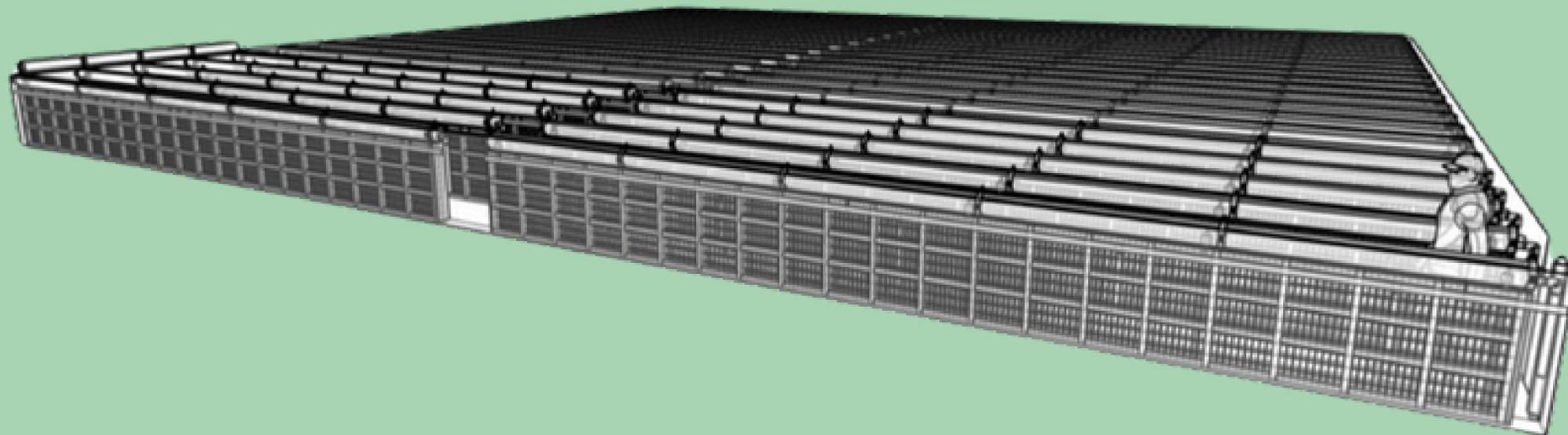
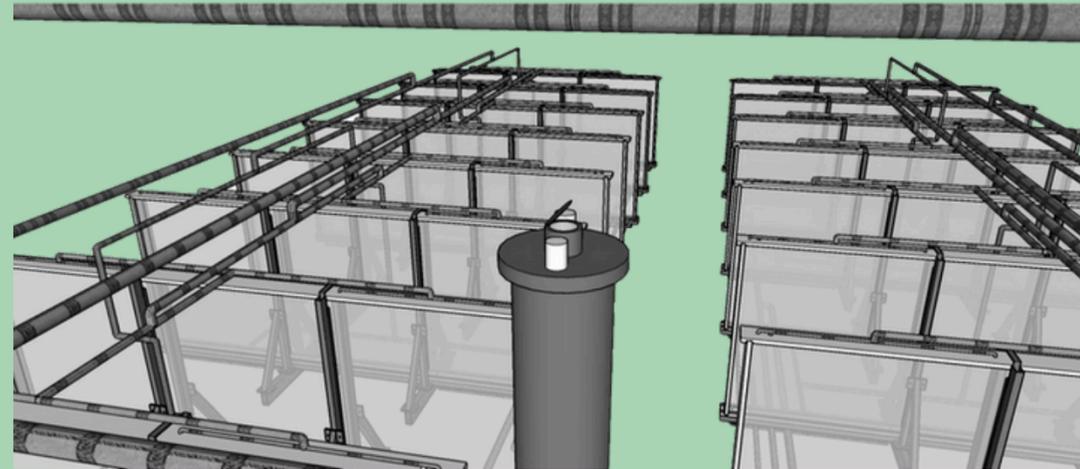
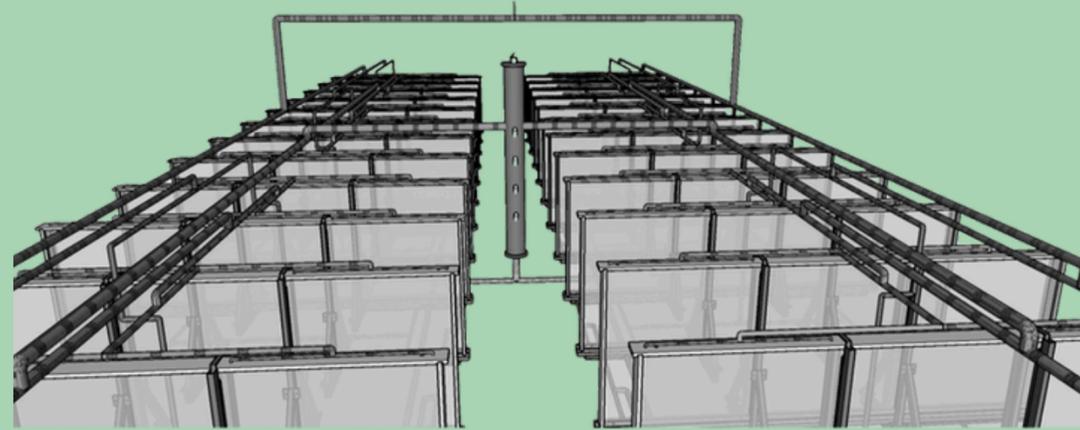
Reduction in operating and equipment costs to be more competitive in price, without the need for mass production.

- **Market shift:** goodbye to petroleum and focus on sectors such as cosmetics and food supplements.
- Natural, sustainable and functional ingredients with market-competitive prices.



Patent

SYSTEM FOR PRODUCING
MICROALGAE ON AN
INDUSTRIAL AND
COMMERCIAL SCALE



CIRCUITO HIDRÁULICO DE IMPULSIÓN

Part 2

The microalgae



An inexhaustible source of natural bioactives

The cell

They are unicellular microorganisms smaller than a blood cell (2–25 μm).

1 mL contains up to 200 million cells.



Green lungs

They are at the base of the food chain \rightarrow the most efficient living beings on the planet.

Photosynthetic organisms: they produce more than 50% of the oxygen we breathe.



CO₂ \rightarrow Biomass

They capture CO₂ and transform it into biomass using solar energy.

Key fact: To generate 1 T of biomass, 2 T of CO₂ are needed.



CO₂ capture

MATURE FOREST = 5 T CO₂/HA/YEAR

SCH AlgaeTech™ = 35,73 T CO₂/HA/YEAR

SCH AlgaeTech™ technology can absorb more CO₂ than large forested areas in the same area, optimizing space and maximizing positive environmental impact.

Parque del Retiro (Madrid)
125 ha = 625 t CO₂/ha/year

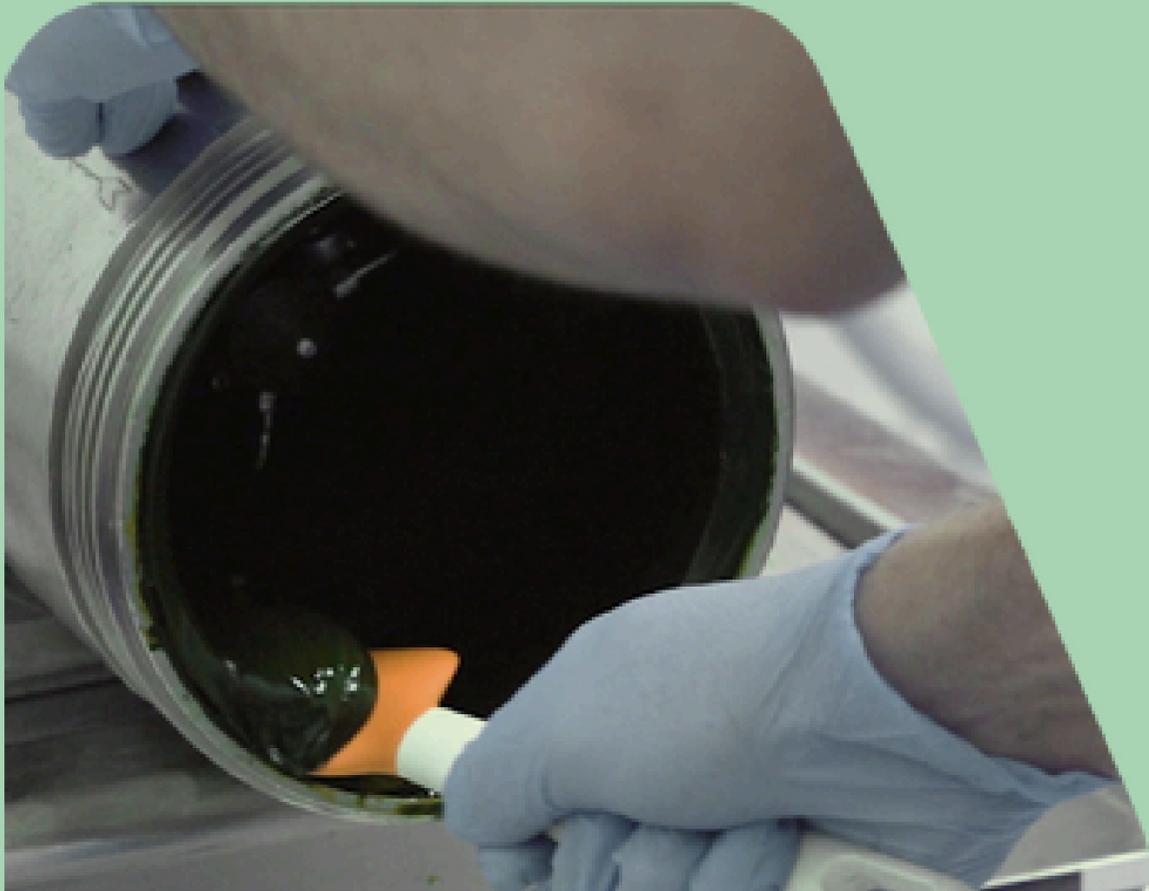
SCH AlgaeTech™ technology
125 ha = 4387 t CO₂/ha/year

X7

Microalgae not only produce sustainable bioactives, but are a real and quantifiable tool against climate change.

Part 3

The production factory



Processing plant

Where microalgae are transformed into active cosmetic ingredients. Here, molecules such as pigments, peptides, and polysaccharides are concentrated and purified, which are then incorporated into skin and hair care formulas.



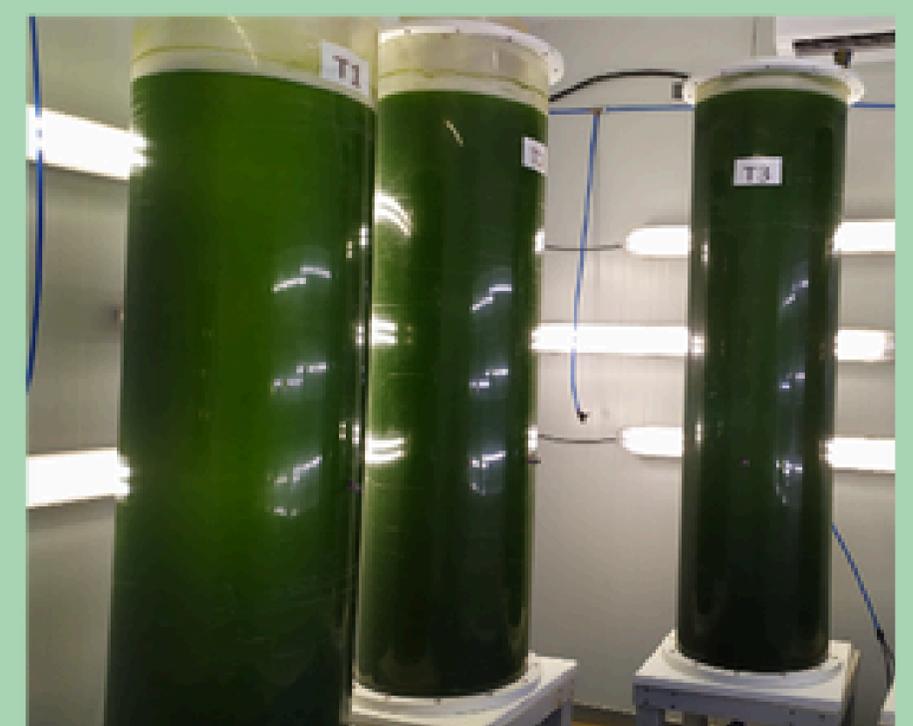
Laboratory



The space for cosmetic research. Strains are characterized, their properties are measured, and tests are conducted to ensure their performance in cosmetic products.

Inoculum zone

The beginning of cultivation, where microalgae are scaled up from small volumes to the capacity required for production. This is a critical stage to ensure the purity and traceability of the cosmetic active ingredients obtained.



Agreements with universities for R&D

Scientific collaboration allows progress in the validation of new cosmetic applications based on microalgae: studies on skin aging, protection against pollution, and hair stimulation, among others.





Production plant

The heart of the system. In closed photobioreactors, microalgae grow sustainably while capturing CO₂, generating biomass rich in functional compounds that will become innovative ingredients for the cosmetics market.

Production plant

- Greenhouse type
- Full control of parameters (T, pH, CO2...)
- Simultaneous production of several species
- 3000 m²
- 512 production units (glass panels)
- Capacity of 40 tons/year
- Plant active and operational from September 2025



Towards a more sustainable future

Microalgae are an incredible resource that offers benefits we are only just beginning to discover. Their diversity and potential applications in cosmetics are vast, with countless active ingredients yet to be explored.

Our mission is clear: to empower the cosmetics industry with organic ingredients and high performance while leading the charge toward sustainable innovation.



www.special-chemicals.es