

CREO

# CBG | Creo Cannabigerol

Discover why CBG (Cannabigerol)  
is creating so much buzz

## Introducing Creo

Creo is an ingredient company that produces rare and novel cannabinoids using the age-old, natural process of fermentation coupled with cutting-edge technological innovation. Creo's technology partner and major shareholder is industry-leading biotech firm **Genomatica**.

Founded in 2016 and based in California, Creo's purpose is to enable new cannabinoid products that help people everywhere while doing less harm to the planet.





## The Creo brand is built on the following attributes:

### Sustainable innovation

We deliver rare cannabinoids at scale, using a natural fermentation process that generally uses less water, energy, and land than some of the conventional plant-derived methods. In this way, we give our customers the ability to develop innovative new products without causing unnecessary harm to the planet.

### Access to abundance

By delivering pure cannabinoid ingredients in commercial quantities, we'll help you bring exciting new consumer products to the mass market.

### Trusted partnership

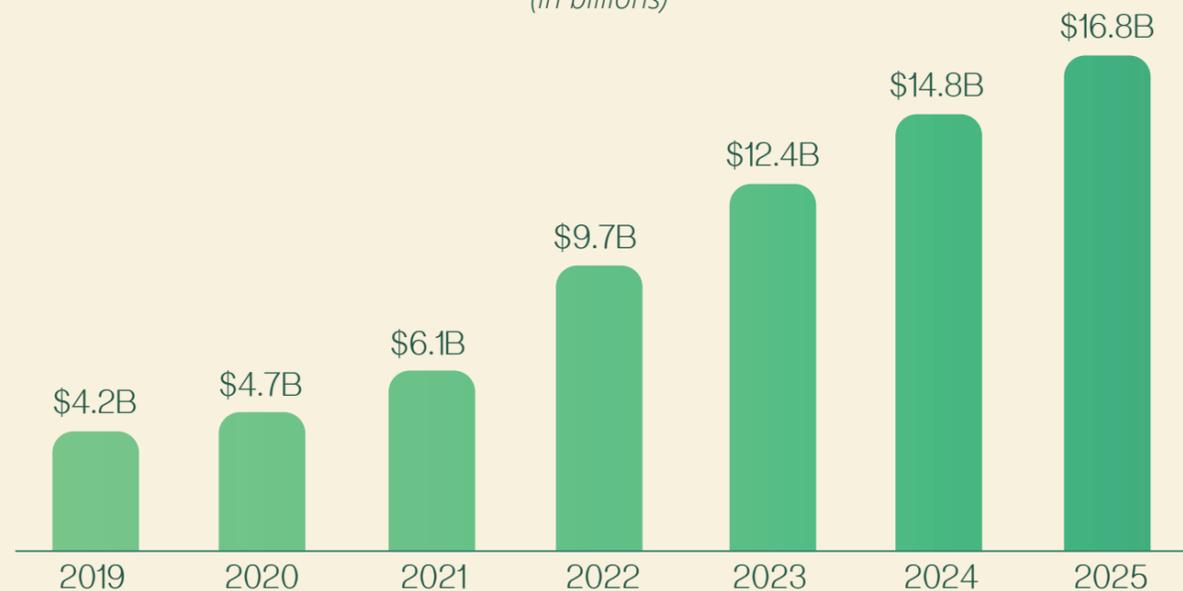
We walk the talk. Our leaders have decades of experience innovating at the intersection of technology, business, and science. Our proven technology, our joint venture with Genomatica, and our strong ties with our commercial manufacturer give you confidence in a reliable, high-quality, and consistent supply of cannabinoids.

# The market

Cannabinoids are the next natural health and wellness phenomena. CBD has already gone mainstream, and products are widely available at retailers such as Walgreens, CVS, and Sephora. The Brightfield Group estimates that the US CBD market could reach \$16.8 billion by 2025<sup>1</sup>.

CBD is just the tip of the iceberg. It is not commonly known, but there are more than 100 different cannabinoids in nature. These cannabinoids offer a myriad of possible health and wellness benefits. Most are, however, found in small quantities in the plant. The next big cannabinoid to take center stage will be **CBG**.

**US CBD market size & forecast: 2019–2025**  
(in billions)



\* Source: Brightfield Group

## Discover why CBG is creating so much buzz

In its acid form, CBG is the mother of all cannabinoids. It is the parent molecule from which all other cannabinoids are derived. Most recently, CBG has been gaining fame as “the skincare cannabinoid”.

The European Union’s CosIng cosmetic database identified CBG as having “skin conditioning” properties. Currently, primary research is being conducted to investigate other potential properties of CBG including:

- Dental hygiene
- Lipid (sebum) synthesis
- Antibacterial
- Skin inflammation
- Keratinocyte proliferation



# Nature loves our cannabinoids and so will you.

We know that, as a customer, you have many choices available. Here are some reasons why we believe you will prefer Creo CBG:

## Contaminant-free

Our natural non-cannabis derived CBG is THC-free and does not risk contamination from pesticides, molds and heavy metals that may occur with plant-based extracts.

## Quantity

Our industrial fermentation process ensures a highly scalable supply of cannabinoids.

## Assurance

Our downstream processing delivers the highest standard of purity and consistency. Our products are independently tested for potency and contaminants by **Eurofins**, a highly respected independent laboratory.

## Safety

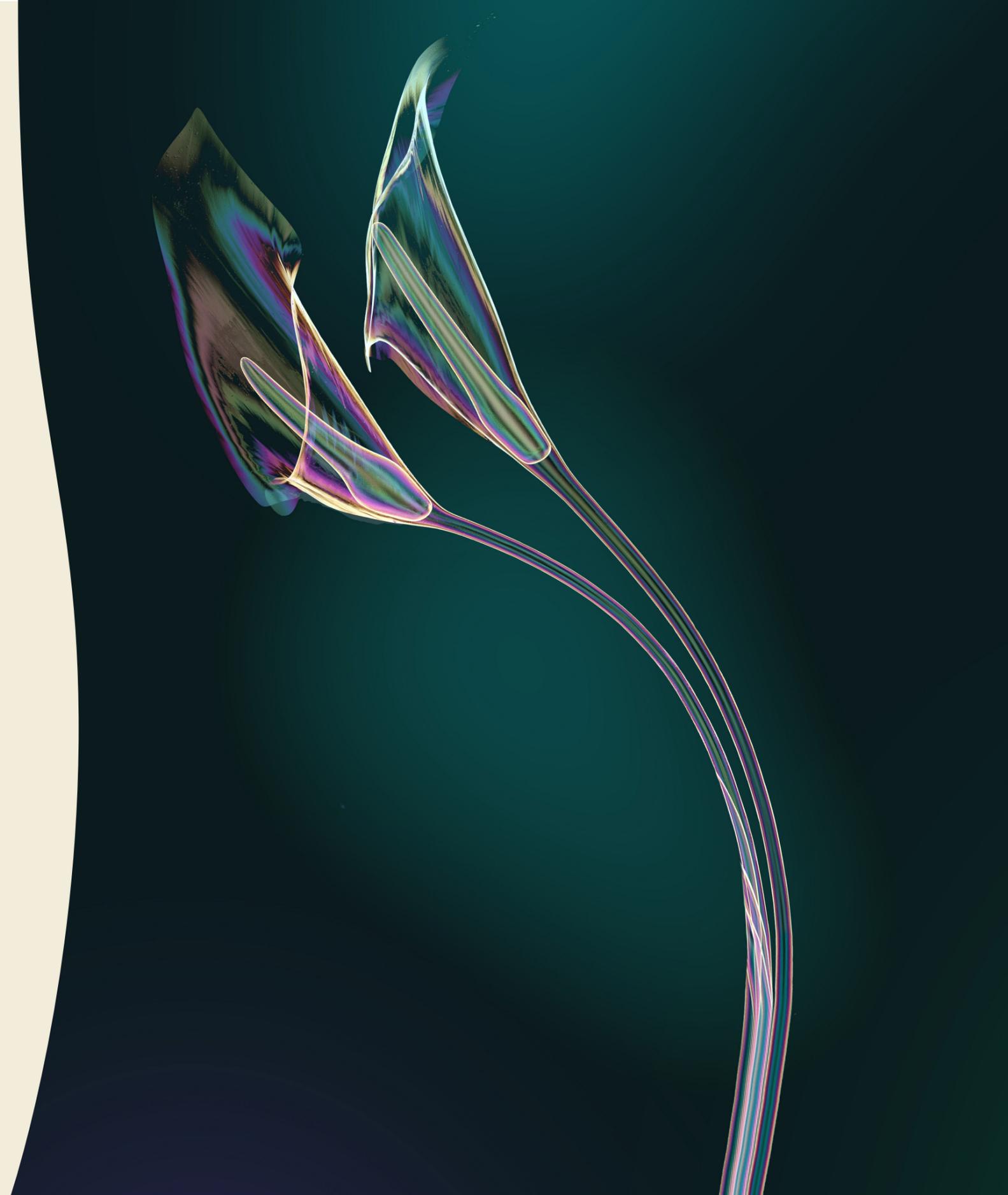
Our cannabinoids are food grade and made in the USA in a cGMP-compliant, FDA-registered facility.

## Credibility

Our global manufacturing partner has more than 4,000 scientists, research chemists, engineers, and plant operators dedicated to delivering ingredients at scale to a wide range of consumer and industrial markets.

## Regulatory

Our cannabinoids can be sold across all 50 US states as well as in global markets, including Japan, Korea, and the EU, where regulations favor non-cannabis-derived cannabinoids. There is no need for Prop 65 labeling. Unlike CBD, CBG is not designated as a drug by the FDA.





## New product opportunities with CBG

We believe that in the next few years, there will be exciting potential to launch many new and innovative products with CBG. Based on market growth and the primary research available, the following application areas hold potential.

### Personal care

According to Statista, global beauty and personal care markets are projected to reach \$511 billion in 2021. This represents many product development opportunities for personal care products with CBG. Recent studies show that CBG promotes lipid synthesis and is being investigated for the treatment of dry-skin syndrome<sup>2</sup>. CBG is easily incorporated into a variety of personal care formulations. It can be included as a hero ingredient or as a complement to CBD. CBG allows for a more dynamic product story and the creation of new user experiences.

### Oral care

A forecast published in Markets and Markets projects the global oral care market to grow at a CAGR of 5%, reaching \$53.3 billion by 2025. Increasing awareness of dental hygiene and the rising prevalence of dental cavities are expected to drive the market. CBG has been studied as an antibacterial ingredient in oral health products<sup>3</sup>.

### Inflammation

The National Psoriasis Foundation reports that 7.4 million people in the US and an estimated 125 million people worldwide experience pain and discomfort from the skin condition psoriasis. This again represents an opportunity for skin products with CBG. Recent studies suggest CBG-infused skincare may have the potential to support this population as well as those with sensitive skin concerns<sup>4</sup>.

## Additional product opportunities

- Anti-aging
- Barrier balms
- Brightening products
- Cleansers
- Color cosmetics
- Deodorants
- Face creams
- Face masks
- Foot care
- Hair care
- Hand cream
- Lip care
- Massage oils
- Muscle balms
- Non-woven wipes





## Product details

- Vegan
- Gluten-free
- Pesticide-free
- THC-free
- ISO 9235 natural raw material
- ISO 16428-1 natural cosmetic ingredient
- High purity and potency
- Free of contaminants
- cGMP-compliant
- Quality and purity independently verified
- Environmentally conscious
- Made in an FDA registered facility
- Made in the USA

### Product name

### Creo CBG

INCI

Cannabigerol

CAS number

25654-31-3

Chemical formula

$C_{21}H_{32}O_2$

Molecular weight

316.5 g/mol

Function

skin conditioning

Appearance @ 25 °C

powder

Color

white

Odor

neutral

Solubility

oil, fat, alcohol

Melting Point

49-60 °C

### Storage conditions

Store in a cool, dry place protected from direct light.  
Shelf life is 24 months unopened.

# Citations

1. [Brightfield US CBD market forecast \(July 2020\)](#)
2. [Differential effectiveness of selected non-psychotropic phytocannabinoids on human sebocyte functions implicates their introduction in dry/seborrheic skin and acne treatment](#)
3. [Oral care/hygiene market by product - global forecast to 2025](#)
4. [Cannabinoids inhibit human keratinocyte proliferation through a non-CB1/CB2 mechanism and have a potential therapeutic value in the treatment of psoriasis](#)

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