



# BIOBASED INGREDIENTS FOR **LIFE SCIENCES**

# AFYBIO™

Innovative Solutions for Life Sciences



# GLOBAL CHALLENGES

As pressure on resources continues to increase, our planet's biocapacity is gradually shrinking. Because of the ever increasing gap between demand and supply of natural resources, we would need the equivalent of 1.7 Earths to meet our current needs.



Today, it takes

## 1.7 Earths

to meet our resource needs



The global population keeps growing and should reach **11.2 billion people before the end of the century.**

One of the consequences will be an increase in demand for natural and environmentally friendly products with reduced carbon footprints.

## SPECIFIC ISSUES FOR... LIFE SCIENCES

Sustainability is becoming a key priority for more and more brands across the ever-evolving cosmetics, hygiene, and life science industries.

It is also a political concern with several countries discussing applying carbon taxes which will make products from companies that are not focused on reduction of CO2 emissions less competitive than products from companies that seriously and actively pursue a mitigation of their environmental footprint.

In an effort to appeal to a growing population of eco-conscious consumers and comply with regulatory constraints, companies are looking for ways to emphasize greener solutions, without compromising on the quality and reach of products.

Several major players in the beauty market aim to be 100% or close to 100% biobased by

## 2030.

key year of life science

To reach the goals and strive towards carbon neutrality, companies are extending are extending formulations with biobased and palm oil free alternative ingredients.

## THE GLOBAL ORGANIC BEAUTY MARKET

is expected to grow up to

# 10%

each  
year

# AFYREN'S COMMITMENTS

**AFYREN'S 100% SEGREGATED\* BIOBASED ACIDS REDUCE CARBON FOOTPRINT BY 5 COMPARED TO FOSSIL-BASED ACIDS\*\*:**



- Natural and innovative fermentation process
- Local, renewable and sustainable resources
- Fully circular model
- Renewable by-products as feedstock
- No direct competition with human food

## By using **AFYREN'S** products, you

### **CONTRIBUTE TO DE-FOSSILIZATION OF THE INDUSTRY**

... All while preserving natural resources and developing regional economy

- Local, safe and sustainable product procurement
- Low water consumption
- No additional land use
- No deforestation

## What do you get?

### **THE POSSIBILITY TO DEVELOP AND PROMOTE INNOVATIVE AND SUSTAINABLE PRODUCTS WITH ADDED VALUE**

#### **REDUCED CARBON INTENSITY**

- GHG emissions reduction (scope 3)
- Improved product carbon footprint (PCF)

#### **POSITIVE BRAND IMAGE**

- Improved scores for environmental certifications
- Contribute to your CSR strategy

#### **ANSWERING THE MARKET'S DEMANDS**

- 100% biobased and segregated\*
- Palm oil free

#### **EFFICIENT CHAIN OF CUSTODY**

- Traceable and transparent
- Limited dependency on crude oil market

## Be part of a sustainable future

\*Norm for biobased products

\*\*Based on the Life cycle assessment conducted by SPHERA 2018-2019, updated 2020 following ISO 14040/14044

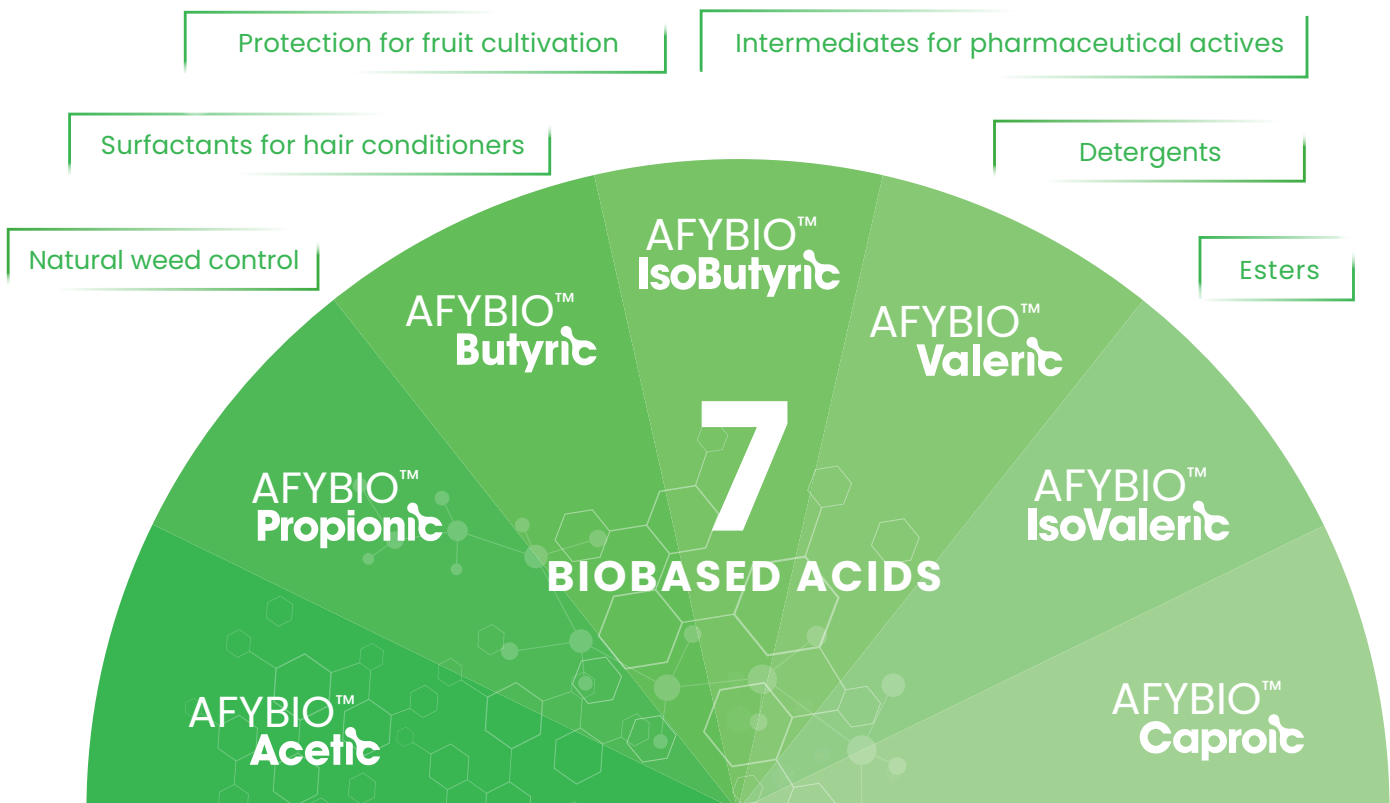


# AFYBIO™ 100% BIOBASED

With a single process, AFYREN produces a range of 7 organic acids from C2 to C6 with versatile properties and applications.

AFYBIO™ acids can be used directly in the formulation or as building blocks for the synthesis of finished products or ingredients.

**100% biobased production which reduces the carbon footprint by 5 vs. production of petrobased acids for the French plant.** AFYBIO™ acids will improve the overall life cycle assessment of the final products.



## CERTIFICATIONS

AFYREN invests in the quality of its process and products to meet customer expectations.



# AFYBIO™ ACIDS – A ROUTE TO SUSTAINABLE DERIVATIVES.

The most common reactions with carboxylic acids are esterification and the alcohol synthesis.

## AFYREN PRODUCTS, BUILDING BLOCKS FOR VARIOUS APPLICATIONS



### AFYBIO™ **Propionic** acid

**Intermediate** for active pharmaceutical precursor

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### AFYBIO™ **Valeric** acid

**Building blocks** for industrial detergent

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### AFYBIO™ **Acetic** acid

**Intermediate** for nailpolish Solvent  
API for depilatory cream

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### AFYBIO™ **Butyric** acid

**Building block** for emollients

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Credit: Benjamin Davies

# Nature is the future.

Now, more than ever it is time to move forward together towards a sustainable, competitive, innovative industry, combining ecology and economy.

With its biomimetic process and its of range of seven 100% biobased acids, AFYREN is revolutionizing the world of chemistry, opening up a range of possibilities for innovation, new products and carbon footprint reduction.

**JOIN THE AFYREN INITIATIVE AND SEIZE NEW OPPORTUNITIES FOR COMPETITIVENESS.**



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