

1. Hydal story

The Hydal biotechnology meets all criteria of the so-called Circular Economy. As the first technology in the history of the Czech Republic it won the Frost and Sullivan Technology Innovation Award and other world awards. In 2012, technology gained its name - Hydal (as abbreviation from Polyhydroxyalcanoates).

2. Hydal Concept – Waste to Material

Hydal brings a concept in which PHA is produced from waste (up-cycling), by a simple process and at a competitive price.

3. Hydal Concept – Waste to Material

Proven feedstock for Hydal is:

- UCO – the best is low quality UCO, which is not suitable for biodiesel production;
- Sludge Palm Oil – waste oil from palm oil production.

4. Hydal Technological Concept

- Technological concept and production of P3HB with different purity and molecular weight for applications.
- We don't use any GMO bacteria for fermentation processes. We have own microbiological collection.
- Hydal Factories are a digital factories. The control system is built on an extensive experimental database and used AI.
- Technology readiness level is at level TLR 9.

5. Excellence in science and research

NAFIGATE team is a key researcher of prestigious Circular Economy projects in Horizon 2020, Eurostars and in national grants. There is a key cooperation with European technology leaders on the platform of these projects.

6. Priority Application Areas

We determine priority application areas based on demand developments and the added value of future products.

Therefore, the following segments are our priority:

- Cosmetics – P3HB as a UV filter and P3HB as a material base for other cosmetic products;
- Medicine – 3D printing, tissue engineering, DDS;
- Smart Fertilizers;
- UV filter in other applications – paints.

For all application areas, we have prepared LCA according to the new EC methodology, biodegradability studies in real environment and in vitro and in vivo tests.

7. Products on the Final Market

The products we launched are under the trademark "*Dedicated to you and nature*". We are the first who introduce Minimum Viable Product (MVP) test products, where we test consumer acceptance of the product in the real market, verify real price sensitivity and a comprehensive market response.

In this mode we have two products on the market - one in the field of replacement of microplastics and the other in the Sun Care Protection:

