

10th World Congress on Green Chemistry and Technology

July 10-11, 2019 | Paris, France

The properties of Polyhydroxybutyrate and fields of its application

Polyhydroxyalkanoates (PHA) are the most commemorated of biodegradable bioplastics due to good physical and mechanical properties, fast and complete biodegradability. PHA is a group of biodegradable and biocompatible polymers, which consists of more than 9 groups, including polyhydroxybutyrate (PHB) and polyhydroxyvalerate (PGV). They are synthesized enzymatically by bacteria as a reserve source of energy. PHA are thermoplastic linear polyesters based on aliphatic hydroxyacids and consist of more than 9 groups. Among the most significant representatives include polyhydroxybutyrate (PHB) and polyhydroxyvalerate (PGV). PHB derives from renewable sources and can degrade in different environments to carbon dioxide and water. PHB properties can be varied by mixing it with other polymers. For example, blending PHB with PLA, you get a good blend for 3D printing and package production. And blending PHA with PBAT make the polymer more flexible. The main field of application of PHA-plastics is the manufacture of bulk products, packaging and 3D printing, depends on mixing PHB with various polymers. And also there are some fields of its using which will be available as piece and mass goods only with significant marketing support.

Biography

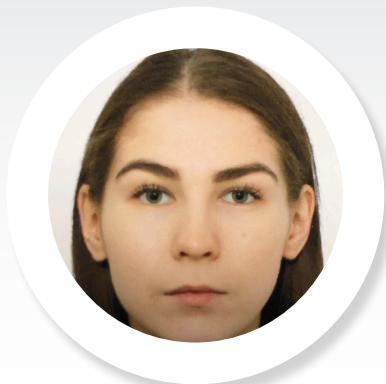
Kseniya Tsyglyaeva and Elena Prokopeva graduated from the Kazan National Research Technological University with receiving a bachelor's degree in Innovative Technologies in Chemistry. Also we were trained at the technical University of Ostrava (Czech Republic) in quality management. Currently Kseniya Tsyglyaeva is studying in "Commercialization of R&D Results". Elena Prokopeva is studying the specialty "Machines and apparatus of industrial ecology". They will receive a master's degree in 2020.

Both of them work in Kazanorgsintez, PJSC on the position of sales economists of Analysis and Planning Department. Kazanorgsintez, PJSC is one of the key chemical players in the Russian economy with a 60-year history. Our company ranks third in the list of the most open and transparent companies according to the data provided by the Russian office of Transparency International e.V. (TI), the international non-government organization. At this moment Kazanorgsintez, PJSC has a project of the Polyhydroxyalkanoates' (PHA) bioplastic production.



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