

Technology offer

Bio-based natural rubber solutions

Fast facts

1. Rubber technology
2. EP patent application filed (2022)
3. New plant-based solvent for natural rubber with excellent solvent properties
product high molecular weight liquid natural rubber
4. Co-development or licensing

Natural rubber

In our daily lives natural rubber is used in countless products. In terms of tensile strength, tear resistance, elongation and low-temperature flexibility, hardly any other material offers similarly high-performance characteristics as natural rubber. Europe is the second largest importer of natural rubber after China; within the EU, Germany is the main importer.

Natural rubber is obtained by precipitation from latex and is commercially available in its solid, undissolved form. Only a portion of the solid can be solubilized by adding petrochemical solvents. The solvents obtained from coal, petroleum and natural gas, such as benzene, xylene, toluene, are usually highly flammable and harmful to humans and the environment. Thus, there are narrow limits to the use of natural rubber solubilized in this way.

Invention

The solid is mixed with a plant-based substance to dissolve it. The outstanding properties of the bio-based substance led to a significantly increased solubility of the natural rubber compared

to conventional solvents. The product, the solubilized yet high molecular weight NR, looks like liquid honey, golden yellow and translucent. After crosslinking, very good elasticity values are achieved.

Market

The new material can be used in a wide variety of applications; for example

- textil coatings
- seals, molds
- floor coverings
- mattresses
- dipped articles
- adhesives

Co-development opportunities

- 3D printing
- secondary dispersions
- artificial latex

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