

Biopolymer-based adhesive for different types of surfaces

The CSIC has developed an eco-friendly adhesive with properties and characteristics unique in the industry. In addition to high mechanical and chemical resistance, its ease of application and low production cost make this an ideal adhesive for a wide range of surfaces. We are seeking companies interested in acquiring the patent licence, to undertake the development of new adhesive products.

Offer for Patent Licensing

A simple and highly effective adhesive

Many adhesives used to bond surfaces use organic solvents or similar substances that are often flammable and not environmentally friendly. These hazardous chemicals serve as a support for the active adhesive components dissolved or dispersed in them. The disposal of these solvents poses problems for the environment and they must be handled with care, due to their flammability or toxicity. In addition to solvents, many adhesives include other toxic compounds that also require caution in their handling.

Water-based adhesives are available, in particular recent developments that include biopolymers as part of their formulation. These adhesives have been applied in medicine as a cellular or tissue adhesive in the human body, because of their affinity for cells.

The present invention involves the novel use of an aqueous polysaccharide solution as an adhesive for many different types of surfaces, including metals and plastics.



Metal adhesion resistance test.

Main advantages and innovations

The main technical characteristics of this adhesive are:

- Its elaboration is economical, since the starting materials are cheap and available at a kilogram scale.
- It is environmentally friendly as the adhesive is based on biopolymers and uses water as a solvent.
- The application method is simple with no risk of toxicity or injury to the operator.
- It adheres with varying strength to a range of surfaces, including metals and plastics.
- The potential fields of application are numerous, particularly those where a bonding process is necessary, such as construction, decoration, electronics, energy, biomedicine, surface coatings, etc.

Patent Status

Priority patent application filed, suitable for international extension

For more information, please contact:

Sebastián Jiménez Reyes, PhD.

Deputy Vice-Presidency for Knowledge Transfer.

Spanish National Research Council (CSIC)

Tel.: +34 922 256 847

E-mail: sebastian.jimenez@orgc.csic.es
comercializacion@csic.es