

# VIPRISCAR

Validation of an industrial process to manufacture isosorbide bis(methyl carbonate) at pilot level

## Summary

Isosorbide is a mainly bio-based chemical with the potential to help manufacture a range of products, many of which currently rely on fossil-based raw materials. It has a number of applications in packaging, coating, printing and even healthcare, and shows particular promise in making parts for PC manufacturing.

The VIPRISCAR project aims to improve production methods and demonstrate, through proof of process, the added value it can bring in three existing high-volume sectors - automotive and furniture, hot melt adhesives and biomedical applications.

## Objectives

The VIPRISCAR project has two overarching goals; first to validate a more sustainable production process to manufacture Isosorbide bis(methyl carbonate). The second is to demonstrate the added value that it can bring to the various market applications.

Specifically, it will:

- Move the production process from TRL 3 to TRL 4;
- Validate IBMC production process at TRL 5;
- Develop polyurethane dispersions (PUDs) based on isosorbide bis(methyl carbonate)-derived materials;
- Assess coatings prepared from PUDs
- Develop and assess nitrogen-containing isosorbide bis(methyl carbonate) derivatives for use in NIPU coatings;
- Develop isosorbide bis(methyl carbonate)-based NIPUs dispersions for use as adhesives;
- Develop isosorbide bis(methyl carbonate) based polycarbonate polyols for use as adhesives
- Develop catheters with antibacterial and antithrombotic properties using isosorbide bis(methyl carbonate)-based NIPU;
- Confirm that the isosorbide derivatives and



<https://vipriscar.eu/>

### Type of Action:

Research & Innovation Action

**Value Chain:** Across VCs

**Start date:** 01 June 2018

**End date:** 31 May 2021

**BBI JU contribution:** € 2,814,876

## Expected impacts

As well as its contribution to the overall BBI-JU goals, the VIPRISCAR project aims to make the following impacts:

- Establish a viable production method that paves the way for introducing a new secondary bio-based chemical that has a structure and properties to make it a promising candidate to substitute current oil-derived chemical;
- It will create new cross-sector interconnections with bio-resource sectors, such as the forestry and timber industries;
- It will contribute to reducing the EU's oil dependency and boost the wider sustainable economy.



the final products meet the toxicology requirements of REACH.

## Project coordination

- Fundación Tecnalia Research & Innovation (Spain)
- Jowat SE (Germany)
- Cikautxo S Coop (Spain)
- B4Plastics (Belgium)
- AEP Polymers SRL (Italy)
- Vertech Group (France)
- Exergy Ltd (United Kingdom)
- Fundacion Gaiker (Spain)
- Acondicionamiento Tarrasense Asociacion (Spain)

**Organisation name:** Fundación Tecnalia Research & Innovation (Spain)