UNIVERSIDAD NACIONAL DE COLOMBIA

DEVELOPMENT

Production of Bio-based Monomers

SYNTHESIS OF MONOMERS FROM VEGETABLE OILS AND USED COOKING OIL

KEY WORDS

BIO-BASED MONOMERS, VEGETABLE OILS, CIRCULAR ECONOMY

DESCRIPTION

Technological development based on the use of epoxides and polyols derived from vegetable oils and used cooking oil as monomers for the production of polyurethanes and resins. It aims to reduce the proportion of fossil raw materials in the final polymers by 10% to 30%, increasing their biodegradability. By employing second-generation raw materials, it contributes to the circular economy and the valorization of urban waste. It benefits companies seeking to improve their sustainability indicators and reduce the environmental impacts associated with the improper disposal of plastics.

POTENTIAL BENEFITS OR IMPACTS

Valorization of bio-based raw materials and urban waste.
Generation of more biodegradable products.
Contribution to the circular economy through the reduction of fossil resource use.

TECHNOLOGY MATURITY LEVEL (TRL)

TRL 5: Validation in a relevant environment.

AREA OF APPLICATION

Plastics
Chemical

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