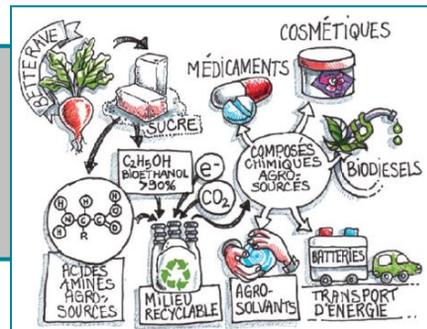


# Eco-designed salts and ionic liquids for industry

ionic liquid / imidazolium salt / ecotechnology  
biosourced solvent / made in France process



## CONTEXT

Imidazolium-based salts and ionic liquids are used in the pharmaceutical and chemical industries, electronics and composite materials. Despite this high added value, their production process and end-of-life remain problematic because they do not meet the requirements of sustainable development and REACH regulations. Thus, new ecotechnologies must be developed: (i) to produce them in an eco-responsible way from renewable carbonaceous materials and (ii) to recycle them at the end of their life.

## DESCRIPTION

To address this challenge, researchers at the ICMuB have designed an eco-innovative process to produce ionic compounds using up to 90% renewable carbonaceous materials. Their work continued with the addition of another new recycling process, which uses only electrons and no other energy or material input. These two ecotechnologies thus allow to reduce the cost of the ionic compounds as well as the environmental impact of their life cycle.

There are many applications for these eco-designed ionic compounds, such as:

- organocatalysts in the synthesis of biodiesel or solvents for non-hazardous and non-flammable paints;
- extraction solvents alternative to conventional ones because they are non-VOC and non-flammable, thus without ATEX risk in industry;
- compounds for capturing, storing and transporting of CO<sub>2</sub> at room temperature, by using a very energy-efficient process than those currently in use.

## COMPETITIVE ADVANTAGES

- Technology patented and double award-winning for its high environmental performance
- Non-flammable, non-VOC & non-toxic solvents
- Products recyclable at the end-of-life
- Compounds biosourced up to 90%
- Raw materials from sugar resources produced in France



## Markets & applications

**Chemical industry:** production of ionic liquids, biosourced solvents, organocatalysts...

**Electronics:** production of electrolytes for batteries, fuel cells or solar panels

**Pharmaceutical industry:** production of oxazolidinones (synthesis intermediates)

**Environment:** treatment of gaseous effluents (selective capture and transport of CO<sub>2</sub>)



## Research team

"Institut de Chimie Moléculaire de l'Université de Bourgogne" (ICMuB)



## Intellectual property

2 Patents registered :  
WO2016001436 et WO2017009578



## Target partnership

Patent licensing  
R&D collaborations

## CONTACT-US

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