NRC·CNRC

Industrial Biomaterials

NRC is your key partner for eco-product research and technology

National Research Council Canada | Conseil national de recherches Canada

Canada

What are Industrial Biomaterials?

“Biomaterials” have many different definitions. At NRC, we define industrial biomaterials as products made, entirely or partially, from renewable resources and for use by many different industries. We focus on using the by-products and residues of the agriculture and forestry industries, also known as biomass, as well as recycled materials to produce cost-effective, lightweight, eco-responsible products that effectively reduce our dependence on non-renewable fossil fuels.

Automotive and ground transportation

If you are a vehicle part or materials manufacturer, our innovative technologies can help you meet growing consumer demand for sustainable vehicles.

We will work with you to introduce lighter and eco-friendly materials into your plastic and composite parts. We can help you develop flexible and cost-effective manufacturing processes for automotive and mass transit parts.

Construction

If you are a manufacturer of building materials or finished products, we can help you develop cost-effective components for green building materials, such as the use of green insulation and structured insulation panels.

We also work with the Canadian Construction Materials Centre for the evaluation of our new products to ensure they meet National Building Code requirements.

Eco-products and supply chain

If you are a biomass producer or developer, plant processor, resin, fibre and additive manufacturer, we can help you adopt technologies that take advantage of low-cost crop and forestry by-products.

By developing high performance natural fibres and by introducing improved biomass into your materials formulation, you can better meet the needs of your eco-conscious clients.

At NRC, we support the development and the commercialization of industrial eco-products. We offer you a complete, integrated solution spanning the entire supply chain, from the biomass preparation to the synthesis, formulation, manufacturing and performance evaluation of the final bioproduct:

Biomass

- Supply and selection
- Characterization

Raw material treatment

- Modification and functionalization
- Analysis
- Handling

Synthesis

- Biomonomers
- Biopolymers
- Additives

Formulation

- Eco-material and biocomposite formulations
- Cost and part weight reduction
- Improved sustainability

Processing manufacturing

- Flexible platforms
- High throughput
- Reliability
- New markets

Evaluation

- Short-term and long- term performance evaluation
- Validation and qualification of new products for market acceptance

Market-ready solutions

Lower cost, lighter and greener materials for:

- automotive and ground transportation
- construction

Industrial biomaterials offer sustainability all around. Based on renewable, non-food resources and recycled materials, they are crucial to an environmentally and socially responsible future. Financially sustainable, industrial biomaterials can offer you a cost-competitive advantage. Innovative and high performing, they provide access to lighter, cost-effective and yet quality products. The NRC's expertis in industrial biomaterials innovation will give your eco-products a competitive edge.

You have access to our world-class experts and specialized facilities

NRC lowers the risk of developing your innovative ideas and reduces the time to get them to market.

Contact us today to get started.

NRC is your key partner for eco-product research and technology

Reduce your product costs
– by incorporating biomass and recycled materials into your products and by optimizing your processes

Reduce your product weight
– by using low density materials, advanced composites and biocomposites

Increase your use of eco-responsible materials
– by replacing traditional plastics and fibres with renewable and recycled materials

Generate new revenue from your biomass
– by converting biomass by-products and residues into value-added industrial products

Form new partnerships
– NRC works with innovative companies throughout the emerging eco-material supply chain, from the raw material suppliers to theengineered product assemblers

Bridge your competitive gap
– NRC can add value to all aspects of your product development process

CONTACT

Nathalie Legros
Technology Leader
Tel.: 450-641-5866
Nathalie.Legros@cnrc-nrc.gc.ca

Mathieu Boisclair
Business Management
Tel.: 450-641-5308
Mathieu.Boisclair@cnrc-nrc.gc.ca

NR16-205/2018E-PDF
ISBN 978-0-660-25346-6 PDF
ISBN 978-0-660-25347-3 PAPER

February 2018
Également disponible en français.