

InnoTech Alberta is a research and innovation organization, with a range of technologies available for licensing. Our focus is on the growth and development of technology-based sectors and the commercialization of technology in Alberta. We provide business and technical services, and initiatives that encourage a strong science, technology and entrepreneurial culture in Alberta.

LICENSING OPPORTUNITY

Cellulose Nanocrystals Thickener

LEVERAGE OUR TECHNOLOGY

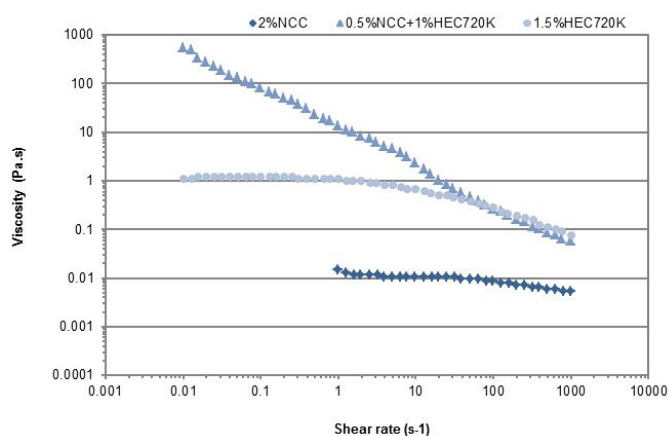
InnoTech Alberta has a variety of technologies available for licensing. We will work with companies, from small to large, to set up mutually beneficial licensing deals. With more than 90 years in applied research and development, we are an experienced commercialization partner. InnoTech's licensing opportunities are the result of our world-renowned research programs. Contact us to explore these opportunities.

TECHNOLOGY OVERVIEW

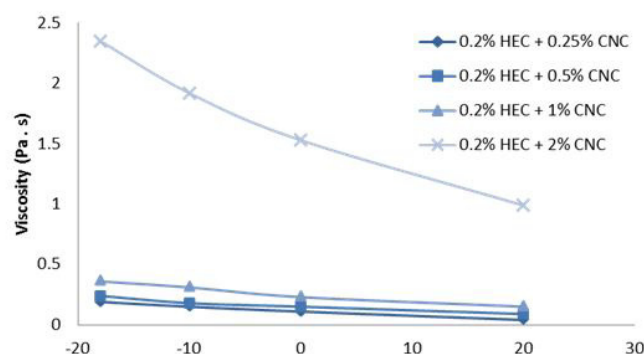
Cellulose Nanocrystals (CNC), also known as Nanocrystalline Cellulose (NCC), have been found to be effective thickening agents and rheology modifiers, particularly when combined with conventional water soluble polymeric thickeners (e.g. hydroxyethyl cellulose; HEC).

ADVANTAGES

- » Enhanced viscosity: CNC can be used as a thickener for aqueous solutions either alone or in combination with conventional water soluble polymeric thickeners.
- » Rheology modifier: CNC-based compositions retain their thickness and viscosity during low shear conditions but show thinning and a reduction in viscosity under high shear conditions.
- » Suitable for anti-icing fluids: Because of their favorable rheology, CNC-based compositions make excellent anti-icing fluids for aircraft. The solutions will remain on the aircraft wings during taxiing and waiting, but shears off at takeoff.
- » Environmentally friendly: CNC is a natural, non-toxic organic material.



Viscosity vs. shear rate of hydroxyethyl cellulose (HEC) alone, HEC with 0.5% CNC, and HEC with 2% CNC. (Note: CNC = NCC above)



Viscosity of HEC with various concentrations of CNC

Cellulose Nanocrystals Thickener

COMMERCIAL APPLICATIONS

- » Use of CNC for as a thickener
- » Use of CNC as a rheology modifier
- » Aircraft anti-icing fluids
- » Oilfield applications (e.g. drilling fluids, fracturing fluids and enhanced oil recovery chemicals)

STATUS

Issued patents in various jurisdictions, including US patents:

- » US8460572
- » US8105430

This technology is available for licensing.

WANT TO EXPLORE THIS OPPORTUNITY?

Licensing@albertainnovates.ca

Our province is blessed with abundant natural resources, world-class infrastructure and research institutions, a highly skilled workforce, and a dynamic, entrepreneurial business community. Alberta Innovates harnesses these strengths by acting as the catalyst between government, industry and academia, to solve some of the biggest challenges facing our province.

TECHNICAL SERVICES

Helping organizations develop their technologies faster and smarter through a subsidiary, InnoTech Alberta.

- » 100,000 m2 of product/process development and scale-up facilities in the areas of petroleum, environment and carbon management, bio and industrial technologies
- » 300 hectare research farm, three greenhouses, and 36 growth chambers

FUNDING PROGRAMS

- » Fostering an entrepreneurial culture and increasing Alberta's critical mass of innovation talent
- » Post-secondary investment programs offer a broad range of support to researchers at all stages of their careers, from graduate students to the world's top researchers

- » Industry investment programs offer support to Alberta-based SMEs in a variety of ways to help accelerate their growth and success

REGIONALLY ACCESSIBLE COMMERCIALIZATION SUPPORT

- » Making connections and pointing businesses and entrepreneurs in the right direction
- » Alberta Regional Innovation Network System - an integrated province-wide system ensuring SMEs and innovators have access to vital services and resources to help them succeed

LICENSING SERVICES

- » Managing the translation of Alberta Innovates intellectual property into business solutions
- » Facilitating licensing deals with industry anywhere in the world