

*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

# Novel Flocculants

### 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

InnoTech Alberta has the capability and expertise to develop novel flocculants and water treatment systems for a variety of industrial applications. Some of our previously-developed systems include novel inorganic hybrid flocculants. At lower dosage rates, these flocculants produce conventional flocculated sediments. At higher dosage rates, these flocculants produce robust floccules that have particularly high solids loadings and produce high-permeability free-draining sediments.

Compared to conventional polymer flocculants, sediments catalyzed by representative InnoTech flocculants:

- » Form more rapidly
- » Drain more readily
- » Are more amenable to further dewatering and consolidation
- » Produce filtrate that is lower in suspended solids

### ADVANTAGES

In addition, we have the proven ability to develop flocculants with:

- » Improved settling rate of fine solids in suspension
- » No over treatment: no loss of efficacy at higher doses (as opposed to conventional polymers)
- » Higher yield stress: InnoTech flocculants produces flocs with higher yield stress, which facilitates transport and further processing
- » Ability to flocculate oil sands mature fine tailings: MFT are notoriously difficult to treat. InnoTech has developed flocculants that are effective on MFT with 5 to 30 wt% solids content



*Left: Untreated mature fine tailings (MFT) with 30 wt% solid concentration. Right: MFT treated with InnoTech flocculant.*

# Novel Flocculants

## COMMERCIAL APPLICATIONS

- » Oil and gas industry (e.g. waste oil recovery, treatment of tailings or wastewater)
- » Water treatment
- » Pulp and paper processing (e.g. de-inking)
- » Wastewater treatment
- » Soil cleaning
- » Mining
- » Mineral processing

## STATUS

We have selected technologies available for licensing. We also have the expertise to work with you to develop specialized water treatment systems to meet your needs.

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## 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 m<sup>2</sup> 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