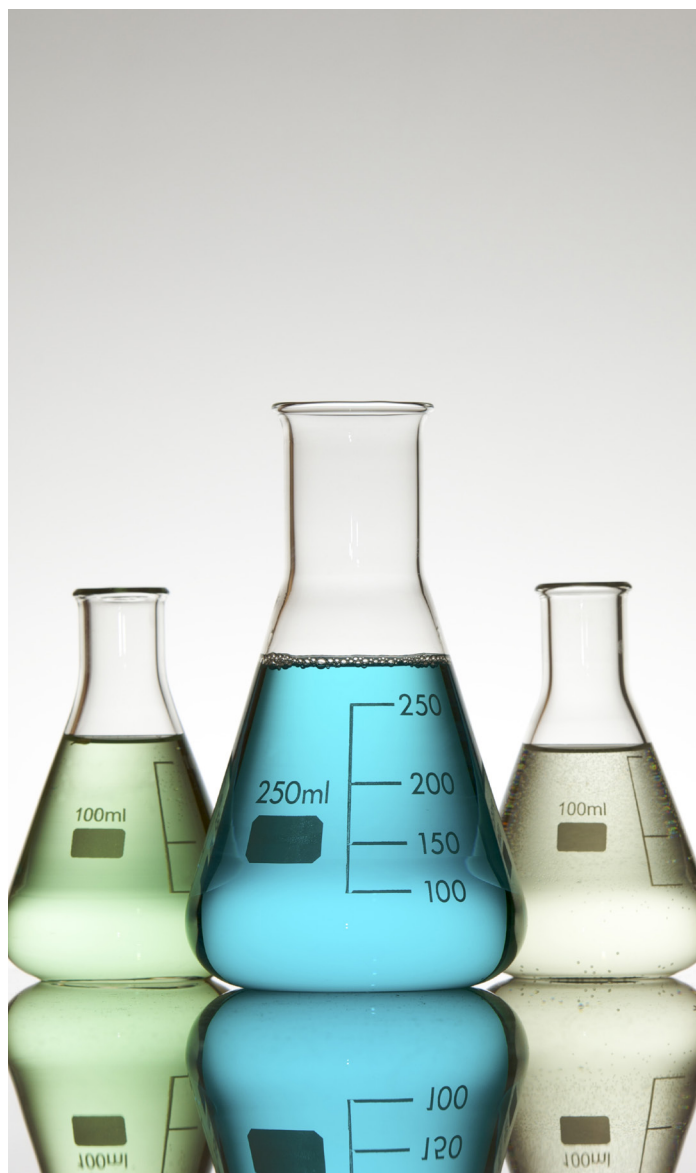


# Specialty Materials

## Synthesis and Formulation Design

The Xerox Research Centre of Canada (XRCC) has invented and commercialized innovative materials for over forty years. Let us help you find the right materials for your application.



### What We Offer

Our team can help you define, develop, and demonstrate specialty materials and formulations to enable your technology.

### Fine Chemical and Polymer Synthesis

We have extensive expertise and experience in the design and synthesis of organic and polymeric materials. We can supply quantities from lab (mg) to pilot scale (kg). Our scientists and engineers work together to deliver high-purity materials using cost-efficient, sustainable processes.

### Custom Formulation

We prepare and evaluate a diverse range of formulations, from specialty inks and polymer-based coatings to challenging materials such as phase-changing waxes and gels. We can tailor-make blends in the lab or pilot plant to meet your specific requirements.

### Polymer Composites

Polymer composites are at the forefront of modern plastics technology. XRCC has a long history of innovation and proven track record in composite materials, including core-shell particles, encapsulated materials, and organic-inorganic hybrids.

# Materials Design

## Organic Materials Design and Synthesis

- Colorants (dyes and pigments)
- Gellants
- Building blocks for self-assembly
- Electronic materials (semiconductors, charge transport molecules, etc.)
- Specialty monomers
- Biomaterial derivatives
- Polymer additives
- Photochromic materials

## Polymer Design and Synthesis

- Optimization of glass transition, crystallinity, and rheological properties
- Random and block co-polymers
- Living radical polymerization
- Anionic polymerization
- Enzymatic polymerization
- Specialty condensation
- Reactive extrusion, blending and emulsification, cross-linking

## Formulation Development

- Specialty inks and coatings
- Electronic materials (inks, dielectrics, and more)
- Particle design and dispersion
- Controlled-release and stimulus-responsive agents
- Security materials

## Materials Characterization

- UV-Vis and fluorescence spectroscopy
- Light microscopy, SEM/TEM and AFM
- Rheology
- NMR (400 MHz multinuclear), FTIR and PXRD
- DSC and TGA
- ICP atomic emission spectroscopy
- HPLC and GPC
- Cyclic voltammetry

## Composites

- Micro- and nanoparticle / polymer composites
- Electronic materials / polymer composites
- Controlled internal composite structures



## Engage Us

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