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Specialty Chemicals Polymers

Your vision. Our experience.
The perfect chemistry.

KODAK Specialty Chemicals is a U.S.-based facility with decades of experience in custom synthesis with high-quality production serving diverse markets and a long, trusted history of providing scale to innovation, particularly with specialty polymers.

Aqueous Polymers

Acrylic Polymers

Developed for use in proprietary nanoscale pigment dispersions

Acrylic dispersant and stabilizers provide the necessary hydrophobic/hydrophilic balance to ensure pigment dispersion stability

Precise control of composition and molecular weight are required for the dynamic shear environment of inkjet printing

Polyurethane Dispersion Technology

Developed to enhance print durability of pigmented ink prints

Rigorous control of the polymerization process is necessary to meet the requirements of pigment dispersion compatibility and ink jetability

The polyurethane formulation ensures the formation of protective films improving abrasion and moisture resistance in printed images



Acrylic Polymers

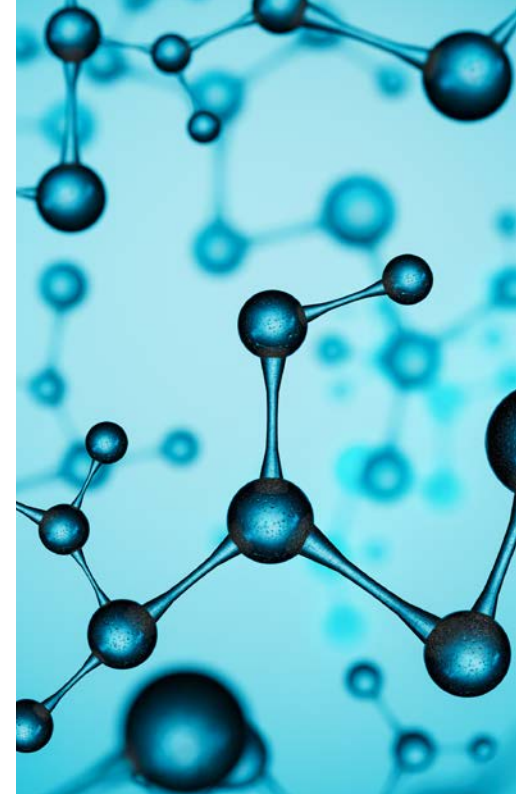
KODAK Acrylic Polymers perform a wide range of functions including colloid stabilizer and polymeric dispersant.

Name	Counter Ion	Aromatic	Aliphatic	Co-Solvent	% Solids	Acid Number	Mw
PDP10	Potassium	✓		Dowanol PM	18	215	8K
PDP66	Potassium	✓		None	25	150	7K
PDP64	Amine	✓	✓	Dowanol PM	18	215	9K
PDP07	Potassium	✓	✓	Dowanol PM	18	215	9K
PDP83	Potassium	✓	✓	Dowanol PM	16	140	8K

Durability Polymers

KODAK Polyurethane Durability Polymers are superior for applications needing abrasion resistance and aesthetics including glossy, sealing and bonding overcoat.

Name	Counter Ion	Aromatic	% Solids	Acid Number	Mw
PR25	Potassium	✓	25	76	76
PR37	Potassium	✓	25	76	76
PR94	Potassium	✓	25	100	100
PR31	Potassium	✓	25	105	105



Polymeric Bead Technology

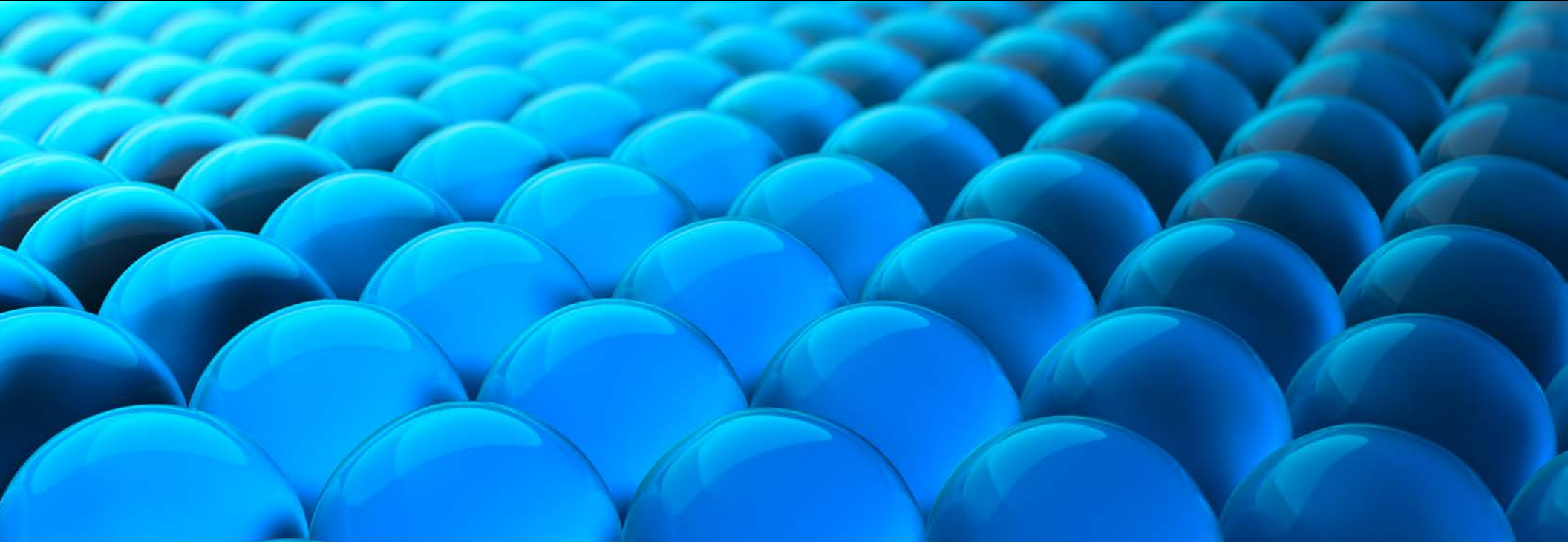
Matting agents serve as spacers to prevent 'blocking' (undesired front-to-back adhesion)

Friction from matte beads prevents 'telescoping' of wide rolls

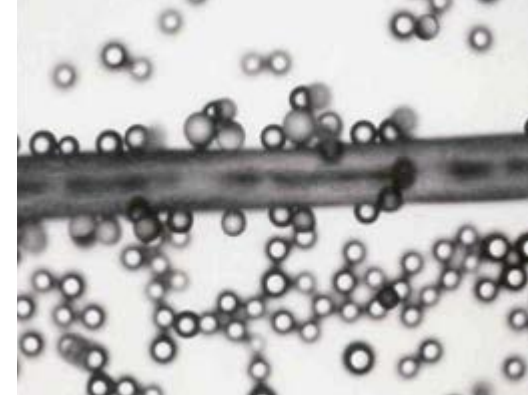
Excellent particle size control can be achieved for a range of 1 to 50 microns

Properties can be tuned to meet the applications needs

- Composition can be used to modify the beads glass transition temperature so that the bead is rigid or compliant at the application temperature
- Solubility can be designed to dissolve after they have performed their function
- Substrate compatibility can be enhanced by grafting materials onto the surface of the bead



Polymeric Beads



Product Name	PR62	PR52 PR53	PR79	PR762	PR47	PR18 PR39	PR052	PR08 PR054	PR65	PR06	PR93
Monomer Composition											
Vinyl Toluene						80%					
Divinyl Benzene 55 *	2%					20%			3%	20%	
Divinyl Benzene 80 **						100%					
Methyl Methacrylate	98%	100%	100%				60%		97%		90%
Methacrylic Acid							40%				
Ethylene Glycol Dimethacrylate				20%							10%
Butyl Acrylate				80%						40%	
Styrene								100%		40%	
Typical Median Particle Size, μm											
	0.5	0.6 1.3 2.1	1.3	1.6	1.3	3.5 1.7	1.5	6.9 6.7	9.6	8.6	3.7
Classified	No	No	No	No	No	No	No	No	Yes	Yes	No
Typical Dispersant	Water	Water	Proprietary/ Aqueous	Water	Water	Dry or methanol	Water	Water	Dry	Dry	Dry
Contains Silica	No	No	No	No	No	No	No	With and Without	Yes	Yes	Yes
Contains Gelatin	No	2 wt%	No	2 wt%	2 wt%	No	No	No	No	No	No

* Divinyl Benzene (55%) contains 45% ethylvinylbenzene

** Divinyl Benzene (80%) contains 20% ethylvinylbenzene



Custom Functional Polymers

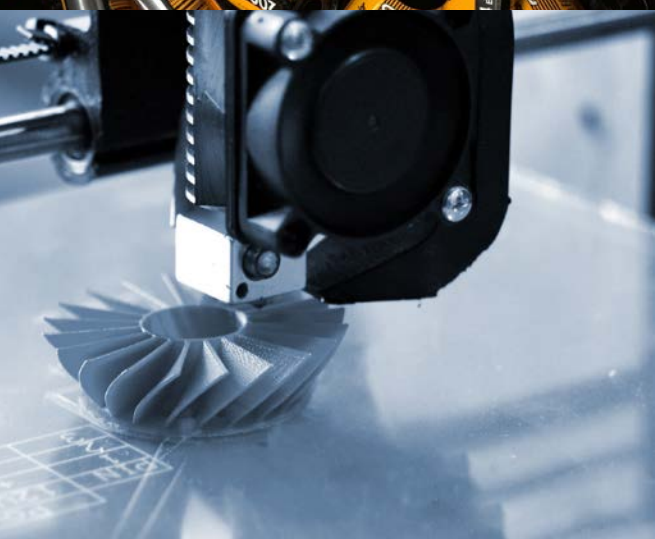
Kodak Polymer Process Competency:

- Solution polymers
- Suspension polymers
- Emulsion polymers
- Polyurethane dispersions
- Precise control of composition and physical properties

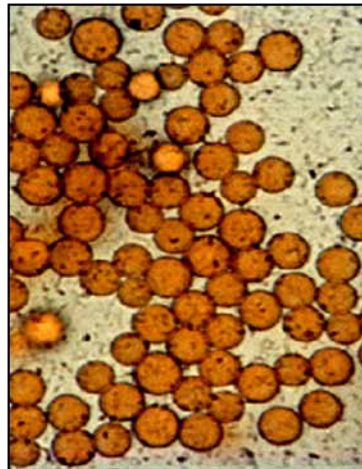
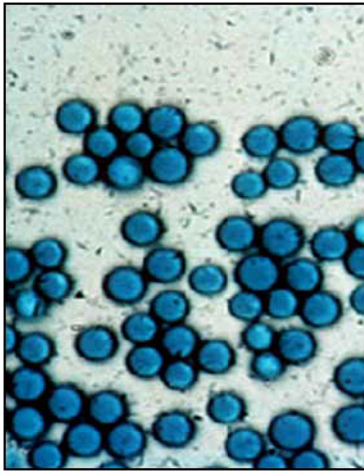
Classes of Polymers Include:

- Photopolymers - Novolaks, acrylic polymers
- Adhesion promoter polymers
- Coating aid and “carrier ” polymers
- Rheology modifiers
- Mordant polymers

These Polymers are Useful in Various Markets:

- Cosmetics
 - Consumer products
 - Printing
 - Electronics
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Encapsulation



Solid Polyurea and
Melamine-Formaldehyde
Shell



Dye Plus Additives

Encapsulated/Incorporated solid and liquid addenda

- Dyes, pigments, UV absorbers, lubricant

Novel microencapsulation process that is capable of generating microcapsules of narrow size distribution and of various sizes not by the amount of shear but by Kodak's proprietary formulation



For further information please visit kodak.com/go/specialtychemicals or contact us at specialtychemicals@kodak.com.

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