

# PMMA Polymethyl Methacrylate

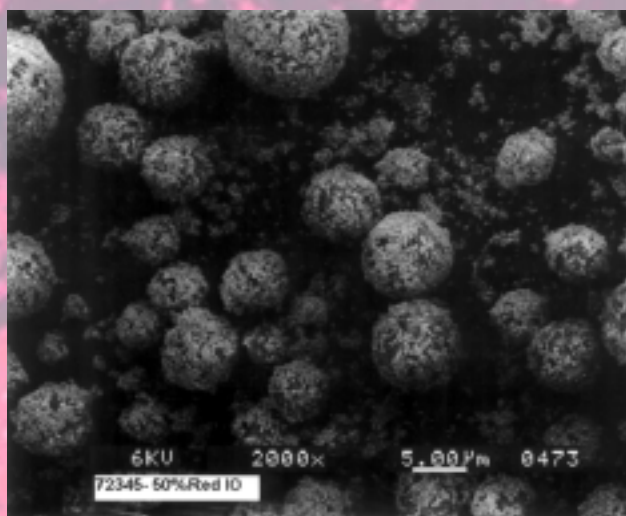
## characteristics

Cardre's PMMA line is based on highly porous spherical polymethyl methacrylate beads. These spherical beads can be loaded with active ingredients to serve as a delivery system in cosmetic applications. Release of the active ingredients across the diffusion gradient occurs steadily as the make-up application is worn on the skin. The spherical nature of PMMA beads works to the advantage of cosmetic formulators by providing a ball-bearing effect which brings improved feel, spreadability, and wear to the final product. In lipsticks, PMMA beads reduce tackiness and improve spreadability. Liquid make-ups also benefit with improved feel and spreadability, and in powder systems flow characteristics are improved while breakage in pressed powders is reduced.

AHA's, sodium hylauronate, folic acid, vitamin E, and Fomblin® are commonly requested actives loaded into PMMA beads. Cardre will also custom load PMMA with other active ingredients or ingredient combinations according to your requirements.



Empty PMMA is available with Cardre's surface treatments to facilitate incorporation of the beads into oils, and offer improved product feel and spreadability to lipsticks, and liquid makeups.



## spherical colorants

Cardre also offers PMMA which has been coated with iron oxides, then surface treated with Cardre AS treatment: these pigmented spheres provide color with a smooth ball-bearing feel, are highly hydrophobic and very compatible with oils. The sheer coverage offered by iron oxide coated PMMA yields color that looks very natural on skin tones ranging from fair to very dark.

## cardre family of products

Cardre offers a full line of surface treated inorganic pigments and fillers, inorganic sunscreens, light diffusing pigments, and dispersions. Please call or write for a full brochure and product samples.

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