



## PRODUCT DATA SHEET

### P2011SL

### SODA LIME GLASS MICROSPHERES FOR COSMETICS/PERSONAL CARE

#### PHYSICAL DATA

Component Materials	SiO <sup>2</sup> , CaO <sup>1</sup> , MgO, Na <sup>2</sup> O, K <sup>2</sup> O, Al <sup>2</sup> O <sup>3</sup>
Specific Gravity	2.48
Index of Refraction	1.51
Diameter	Mean – 3 to 6 microns, maximum – 15 to 20 microns
Appearance	Individual spheres are clear and transparent; in bulk, look like white powder.
Hardness	Moh >6, 30,000 psi crush point
INCI Name; CAS Numbers	Glass Beads, soda lime; 308076-03-1[glass, soda lime]; 65997-17-3 [glass, oxide]
EINECS/REACH Registration Number	266-046-0
Microorganisms	<10 colony forming units per gram; no pathogens.
Oil Absorption	18 to 20 grams oil/100 grams spheres

#### APPLICATION BENEFITS

P2011SL microspheres are the smallest commercially available solid glass spheres. In cosmetic applications, they act as functional enhancement pigments or additives, and as optical spacers and color intensifiers. Because P2011SL microspheres are clear and solid glass, they function as magnifying lenses and make any pigments or mica particles they surround appear richer, deeper, and more intense in color. Prizmalite microspheres can significantly reduce glazing effects when they are added to face and eye shadow powders.

As a functional enhancement additive, P2011SL spheres offer a simple and elegant method for formulators to embody “soft focus” or “optical blurring” ingredients into makeup and skin care products. This phenomenon occurs because of the way light is reflected from glass. Light falling on glass particles is reflected back at an angle from many microscopic points rather than directly. The effect of this “scattered” reflection is to confuse the eye into seeing the skin as brighter; the reflection “disguises” the appearance of blemishes such as fine wrinkles and makes the skin look younger. Geometrically, P2011SL spheres function as flow enabling or anti-mottling agents.

Prizmalite also applies certain proprietary coatings to its microspheres to expand their potential applications. Certain coatings increase dispersion of the spheres into formulations and their chemical bonding with ingredients in those formulations. Other proprietary coatings, combined with the roundness of the microspheres, promote a tactile sensation similar to that of fine talc and result in a very smooth application.

#### FORMULATION GUIDANCE

The visual functionality of P2011SL spheres depends on their interaction with ambient light, so formulations should be designed to allow light transmission and to position the P2011SL microspheres at or near the surface of the formulation.

In water or solvent-based formulations, P2011SL spheres are typically added at levels ranging from 5% to 10% (calculated as the ratio of the dry weight of the microspheres to the dry weight of the other ingredients) depending on the intensity of color and the effect desired. When loading levels exceed 10%, P2011SL spheres shift to become a flattening agent, resulting in a matte or low gloss effect.

NOTE: All glass microspheres attract moisture in the air. Please keep this product dry. If clumping is observed, simply dry in an oven at 100°C for 30 minutes to remove all water.