

January 29, 2015  
Mitsui Chemicals, Inc.







## Development of Plant-derived High Refractive Index Lens Material “Do Green™”

Mitsui Chemicals, Inc. (Tokyo: 4183; President & CEO: Tsutomu Tannowa) announced the successful development of “Do Green™”, a bio-based high refractive index lens material using plant-derived material.

Mitsui Chemicals developed this lens monomer MR-160™ (refractive index 1.60) using its new and unique aliphatic isocyanate-derived biomass, [STABio™](#) PDI™. The Company acquired certification for the monomer as a biomass-derived product in both Japan<sup>1</sup> and the United States<sup>2</sup>.

The Company also received the same certification for its ultra-high refractive index lens monomer MR-174™ (refractive index 1.74).

### 【Biomass certified products】

 (Refractive index of 1.60)	JORA Biomass 30-40% <sup>3</sup>  (Certified March 2014)	USDA Biomass 57% <sup>4</sup>  (Certified September 2014)
 (Refractive index of 1.74)	JORA Biomass 30-40% <sup>3</sup>  (Certified December 2014)	USDA Biomass 82% <sup>4</sup>  (Certified October 2014)

- 1) JORA (Japan Organics Recycling Association): Provides biomass certification to environmentally friendly products using biomass and which meet certain quality and regulatory standards.
- 2) USDA Certified Bio-based Products: The United States Department of Agriculture gives “USDA BioPreferred®” certification to products derived from plants and other renewable agricultural, marine, and forestry materials which give an alternative to conventional petroleum derived products.
- 3) Ratio of fossil fuel-derived carbon and biomass-derived ingredients.
- 4) Ratio of fossil fuel-derived carbon and biomass-derived carbon tested by ASTM-D6866-12 (standard test for determining bio-based content of solid, liquid, and gaseous samples using carbon-14 radiocarbon analysis).

The Mitsui Chemicals Group will continue research and development of biosynthesis and plant culture technology, such as polymers derived from plants, as a solution provider committed to finding new sustainable processes and materials. The Company will continue to develop plant-derived materials including not only ophthalmic lens materials but also applications such as coating materials and adhesives while pursuing realization of a cohesive society in harmony with the environment.

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