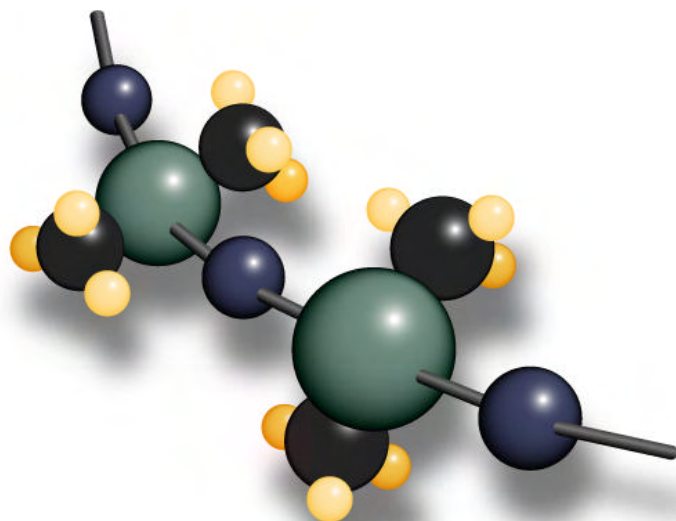


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LS-5200 Refractive Index Matching Kit

For photonics and optics



The LS-5200 Refractive Index Matching Kit is a collection of nine (9) optical fluids, one (1) optical coating and one (1) optical coating diluent (solvent) contained in an attractive wooden case. The kit is intended as a laboratory tool for optical design prototyping, and for index matching investigations. All of the fluids in the kit are inert, non-hazardous, non-flammable, non-toxic, non-volatile, optical grade materials designed especially for sensitive optical assemblies. The optical coating (RI = 1.33) and its associated diluent solvent permit adjustment of the concentration of suspended optical solids in the coating to create coating thicknesses in the range of 50 nm to 100 microns.

The kit includes one 30cc (1 fl.oz.) bottle of each of the following materials. Each bottle is equipped with a color-coded glass rod applicator cap for dispensing small droplet quantities. A Certificate of Conformance is provided with each kit that provides the refractive index values to ± 0.0002 (589nm, 25.0°C) and each bottle is labeled with its value of refractive index measured to the fourth decimal place. Data sheets for all products are also available via at: www.siliconepolymers.co.uk. An application note: "Index Matching Using Optical Polymers", is also provided.

Product	Refractive Index*	Viscosity* (cP)	Typical Applications <i>Consult product data sheets for more details</i>
LS-5229 fluid	1.29	400	low near UV and near IR losses, improve TIR
LS-5238 fluid	1.38	1800	matches MgF ₂ coatings; improve TIR
LS-5241 fluid	1.41	500	low near IR losses; polymer w/g contacts
LS-5246 fluid	1.46	1600	matches silica glass & fiber, CAB plastic
LS-5249 fluid	1.49	200	matches acrylic plastics; POF coupling
LS-5252 fluid	1.52	1000	matches BK7 glass, COC plastic
LS-5257 fluid	1.57	1400	matches BaK glass; refractometer contact fluid
SL-5262 fluid	1.62	650	matches SK glass; projection displays
SL-5267 fluid	1.67	100	matches polyimide; high index contact fluid
LS-2233-1% coating	1.33	4	anti-reflection (AR) coatings, total internal reflection (TIR) lightguide claddings, optical grade mold release, optically clear barrier film for adhesive masking and patterning.
LS-2233-CD coating diluent	N/A	2	used to dilute LS-2233 to control coating thickness, or as an optical grade solvent

*Properties listed are typical values, measured at 25.0°C. Consult data sheets for details on optical transmission, thermo-optic & dispersion properties, service temperatures, etc.

Note: These fluids are generally not miscible with each other, and unless determined to be otherwise, should not be mixed together or with other fluids. Contact Polymer Systems Limited for assistance with this issue.

OPTICAL MATERIAL STABILITY & COMPATIBILITY

All products in this kit are inert with no intrinsic shelf life limitations. They will, however, suffer changes in properties if removed from their original containers and subjected to extreme environmental conditions, as indicated on the individual product data sheets, which tend to cause volatilization or thermooxidative breakdown, or alternatively through contamination with particles of dust, dirt, or other solids or fluids. These products are generally compatible with most optical plastics, glasses, and semiconductors, with the exception that LS-5257, SL-5262, and SL-5267 are incompatible with some types of ester-vulnerable plastics and elastomers as described on their product data sheets. If there is a concern regarding compatibility, contact Lightspan for guidance.

OPTICAL FLUID MISCIBILITY

The fluids in this kit are in general not miscible with each other. Cross contamination of different fluids may cause hazing or clouding of the resultant mixture. The user is cautioned not to mix up applicator caps for individual fluid bottles. Bottles and caps are color coded to help prevent cross contamination. In some cases it may be feasible to mix two of the fluids together to obtain an intermediate value of refractive index but the extent to which this is feasible depends on the fluids, the mix ratios, and the temperature range of use. Contact Lightspan for assistance with customizing a fluid with an intermediate value of refractive index or viscosity.

CLEAN-UP

All fluids may be removed from surfaces by first wiping off excess fluid with a suitable paper or cloth wipe and then using a suitable reagent grade solvent. LS-2233 and LS-5229 may be removed using LS-2233-CD followed by a rinse with reagent grade isopropanol. All other fluids may be removed using reagent grade isopropanol, or alternatively, by wiping with a suitable cloth soaked with acetone. If solvent residues are undesirable the clean-up process should be completed with a final rinse with reagent grade isopropanol. Use caution when using acetone for clean-up; some optical plastics are incompatible with acetone. The user is responsible for compliance with all applicable local, state, and federal regulations governing disposal of waste materials as indicated in the MSDS.

WARRANTY

This kit is sold without warranty, express or implied. Lightspan expressly disclaims any liability for incidental or consequential damages resulting from use of this product. The user is counseled to conduct thorough design and qualification studies prior to approval of any Lightspan material for any production process or product component.

SAFETY

Consult the Material Safety Data Sheet (MSDS) for all materials before use. A complete set of MSDS's is included with the kit. Additional copies may be obtained from our distributor, Polymer Systems Technology Limited. These materials are industrial products, designed for use only by qualified laboratory or production personnel.