

Fluorinated polymers having thermoplastic elastomeric properties comprising in the macromolecule perfluoropolyoxyalkylene sequences of formula: (\*See Patent for Tabular Presentation\*) PS where  $m/n=0.2+5$ , are obtained through polycondensation with suitable perfluoropolyoxyalkylene condensation monomers corresponding to formula (I), functionalized with suitable reactive groups and having a functionality at least equal to 1.97, preferably at least equal to 1.99. Such polymers are characterized by an average molecular weight at least 50%, preferably at least 100%, higher than that of the corresponding polymers obtained starting from perfluoropolyoxyalkylenes corresponding to formula (I) having a functionality not higher than 1.96.

5508439

**PERFLUOROALKANOYL  
AMINONITRILES**

Kameswaran Venkatarama Princeton Junction, NJ, UNITED STATES assigned to American Cyanamid Company

There are provided perfluoroalkanoyl aminonitrile intermediates and their use in a facile and efficient synthesis of 2-perfluoroalkyl-3-oxazolin-5-one. Said oxazolinone is a key intermediate in the preparation of insecticidal, acaricidal and nematocidal pyrrole compounds.

5508833

**DISPLAY APPARATUS SEALED WITH A  
SOLVENT-SOLUBLE FLUOROCARBON  
OR FLUORINE-CONTAINING RESIN  
HAVING AN ADHESIVE COVALENT  
BOND-FORMING FUNCTIONAL GROUP**

Saito Susumu; Takahashi Takashi Tokyo, JAPAN assigned to Kabushiki Kaisha Topcon

A display apparatus has two plates and an intermediate member disposed between the two plates. The two plates are bonded by way of the intermediate member. A liquid is sealed in a gap or space defined by the plates and the intermediate member. The two plates are bonded by means of a soluble fluorocarbon resin or

fluorine-containing resin.

5509101

**RADIATION RESISTANT OPTICAL  
WAVEGUIDE FIBER AND METHOD OF  
MAKING SAME**

Gilliland John W; Morrow Alan J; Sandhage Kenneth Horseheads, NY, UNITED STATES assigned to Corning Incorporated

A radiation resistant optical waveguide fiber doped with fluorine or drawn with low tension in the fiber. The fluorine doping is substantially constant across the core and a portion of the clad adjacent the core. The concentration of the fluorine is in the range of about 0.3 to 3.0 weight percent. The draw tension is less than or equal to about 5 grams (40 dynes/cm<sup>2</sup>) to achieve optimum radiation resistance. A synergy is found when fluorine and low draw tension are applied to a fiber. Improvement in radiation resistance is largely independent of fiber type and geometry. Further improvement in radiation resistance is found when germanium is doped in a portion of the clad adjacent the core.

5509970

**METHOD OF CLEANING  
SEMICONDUCTOR SUBSTRATE USING  
AN AQUEOUS ACID SOLUTION**

Shiramizu Yoshim Tokyo, JAPAN assigned to NEC Corporation

Cleaning methods for semiconductor substrates which can remove metallic impurities and natural oxide films from the surface of the substrate. As a cleaning solution, aqueous acid solution containing 0.0001-0.001 weight % of ammonia based on a conversion off the amount off ammonium hydroxide or 0.0005-0.01 weight % of EDTA is used. The cleaning solution preferably contains 1-10 weight % of hydrogen fluoride. Metallic impurities removed from the surface of the substrate into the cleaning solution form complexes or chelates with ammonia molecules or EDTA molecules, thereby masking the metallic impurities.