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5705710
PROCESS FOR THE SYNTHESIS OF HEXAFLUOROISOPROPYL ETHERS

Baker Max T; Tinker John H; Ruzicka Jan A Iowa City, IA, UNITED STATES assigned to University of Iowa Research Foundation

This invention relates to a method of synthesizing 1,1,1,3,3,3-hexafluoroisopropyl ether compounds from the reaction of methoxymalanonitrile with a bromine trifluoride composition.

5708119
PERFLUOROALKYL SULFIDE, SULFONE, POLYSULFONE AND POLYSULFIDE DIOLS

Deisenroth Ted; Haniff Marlon Carmel, NY, UNITED STATES assigned to Ciba Specialty Chemicals Corporation

Bisperfluoroalkyl-substituted diols containing sulfide, sulfone or polysulfide linkages and a method for making them are described. These diols can react with isocyanates to form urethanes; diisocyanates to form polyturethanes; chloroformates to form carbonates; with carboxylic, sulfuric or phosphoric acids or derivatives to form carboxylate esters, sulfate esters, phosphate esters respectively. These diol compounds and their derivatives are useful for imparting oil and water repellency to substrates such as glass, wood, paper, leather, wool, cotton, polyester and other substrates.

5710345
FLOORINATED POLYMERS AND COPOLYMERS CONTAINING CYCLIC STRUCTURES

Navarrini Walter; Tortelli Vito; Zedda Alessandro Boffalora Ticino, ITALY assigned to Ausimont S P A

Polymers and copolymers of one or more fluorinated dienes of structure CFX1 double bondCX2-O-CX3X4-O-CX2 double bondCX1F, wherein X1 and X2 are F, Cl or H, and X3 and X4 are F or CF3, wherein said dienes essentially form cyclic repetitive units, the comonomers used for preparing copolymers being ethylene unsaturated fluorinated compounds. Processes for preparing the fluorinated dienes having said structure which comprise the reaction in solution between one halogenated olefin and one hypofluorite CX3X4 (OF)2, wherein X3 and X4 are F or CF3, and the dehalogenation or dehydrohalogenation of the linear adduct between one hypofluorite molecule and two olefin molecules. The polymers and copolymers of the invention are particularly suitable for preparing coatings for applications at high temperatures.

5710352
VAPOR PHASE PROCESS FOR MAKING 1,1,1,3,3-PENTAFLUOROPROPANE AND 1-CHLORO-3,3,3-TRIFLUOROPROPENE

Tung Hsueh Sung Erie County, NY, UNITED STATES assigned to AlliedSignal Inc

A method for the preparation of 1,1,1,3,3-pentafluoropropane (HFC-245fa) and 1-chloro-3,3,3-trifluoropropene (HCFC-1233). 1,1,1,3,3-pentachloropropane (HCC-240fa) is fluorinated with HF in a vapor phase in the presence of a vapor phase catalyst. The HCFC-1233 and any co-produced 1,3,3,3-tetrafluoropropene (HFC-1234) are recycled for further fluorination by HF for a greater than 99% HCC-240fa conversion.

5710852
OPTICAL WAVEGUIDE FOR FIBER-OPTIC AMPLIFIERS FOR THE WAVELENGTH REGION AROUND 1550 NM

Weber Diete Kornwestheim, GERMANY assigned to Alcatel NV

An optical waveguide for fiber-optic amplifiers is

disclosed where the Progression of the fluorescence band of optical waveguides that are doped with erbium and aluminum can be additionally flattened if the core contains fluorine, e.g., in the form of ErF3 and AlF3, as an additional doping agent.

5714517
FLUOROALKENYL COMPOUNDS AND THEIR USE AS PEST REPELLENTS

Ruminski Peter Gerrard Ballwin, MO, UNITED STATES assigned to Monsanto Company

Fluorinated alkene compounds useful for and methods of controlling nematodes, insects, and acarids that prey on agricultural crops. Polar compounds, for example, 3,4,4-trifluoro-3-butene-1-amine or 3,4,4-trifluoro-3-butenoic acid, are particularly useful for systemic control of pests. Novel method and intermediates for the preparation of 3,4,4-trifluoro-3-butene-1-amine are also provided.

5718807
PURIFICATION PROCESS FOR HEXAFLUOROETHANE PRODUCTS

Miller Ralph Newton; Deschere Mark Richard; Mahler Barry Asher; Muthu Olagappan Newark, DE, UNITED STATES assigned to E I du Pont de Nemours and Company

The disclosure relates to removing impurities from hexafluoroethane (CF3CF3), also known as PerFluoroCarbon 116 (PFC-116) or FluoroCarbon 116 (FC-116), by using azeotropic distillation such that an overhead product containing an HCl-hexafluoroethane is formed, optionally combined with a phase separation step to break the HCl-hexafluoroethane azeotropic or azeotrope-like composition thereby permitting recovery of substantially pure hexafluoroethane. Unreacted hydrogen fluoride (HF) may be removed from hexafluoroethane during the above azeotropic distillation with HCl or alternatively by an azeotropic distillation wherein an HF-hexafluoroethane azeotropic or azeotrope-like composition exits overhead and substantially pure HF exits in the bottoms stream.

5719245
FLUORINE-CONTAINING COPOLYMER AND COMPOSITION CONTAINING THE SAME

Yamamoto Yuichi; Tatsu Haruyoshi Takahagi, JAPAN assigned to Nippon Mektron Limited

A fluorine-containing copolymer composition comprises a novel terpolymer of tetrafluoroethylene-perfluoro(methylvinylether)-1,1,3,3,3-pentafluoropropene and dialkali metal salt of bisphenol compound gives a vulcanization product having a low compression set.

5719259
PERFLUOROALKYLENE OXIDE COPOLYMER COMPOSITION CONTAINING FUNCTIONAL GROUPS

Tyul'ga Galina Mikhailovna; Platonova Olga Borisovna; Solodkaya Irina Gennadievna; Rondarev Dimetrii Stefanovich; Starobin Yurii Kalmanovich; Sokolov Sergey Vasilievich; VanCleeff Albertus St Petersburg, assigned to E I du Pont de Nemours and Company

Perfluoroalkylene oxide copolymer having acid fluoride moieties are prepared by reaction of hexafluoropropylene oxide and 1,2-epoxypentafluoropropane 3-fluorosulfate in the presence of a cesium alkoxide initiator. The copolymers may be cured at room temperature and are useful in sealant and coating formulations. Derivatives of the copolymers containing ester, amide, nitrile, and ether moieties are also disclosed.