

A. **DIAGNOSTIC TEST KITS & AUTOMATED INSTRUMENTS [LINK]**

System for electrochemical quantitative analysis of analytes within a solid phase and affinity chromatographic test strip

Patent number: 6485983

Abstract: System, method, and test strip for solid phase, electrochemical, quantitative analysis of analytes contained in biological fluid samples. Preliminary to analysis, a test sample solution can be applied to a sample collection pad associated with the solid phase test environment of the test strip. The test sample solution and a test kit reagent are thereby initially contacted, under assay conditions, within this solid phase test environment, and caused to migrate along a fluid pathway therein. Irrespective of the assay format (competitive assay, sandwich assay, etc.), a test kit reagent (e.g. labeled substance) and the analyte of interest (e.g.

Type: Grant

Filed: May 5, 1999

Date of Patent: November 26, 2002

Assignee: Intec Science, Inc.

Inventors: Fang Lu, Frank N. W. Lu, Kai Hua Wang

Test strip and fixture

Patent number: 4790979

Abstract: A test strip is disclosed which provides for transport and separation of heterogenous fluid samples. This test strip can be used for analysis of whole blood by reflectance measurement. This test strip, which can be especially adapted for use in a disposable blood sampling fixture, comprises two functional components: (1) a wicking element for reception of the whole blood sample and transport of the sample to a dry chemistry reagent system, and (2) a porous membrane which has been impregnated with a dry chemistry reagent system specific for analysis of an analyte within the whole blood sample. A barrier layer is provided between the wicking layer and the porous membrane to preclude contact therebetween. In the preferred embodiments of this invention, an aperture is cut or formed in the barrier layer to allow for the flow of sample for the wick to the surface of the porous membrane.

Type: Grant

Filed: August 29, 1986

Date of Patent: December 13, 1988

Assignee: Technimed Corporation

Inventors: Louis Terminiello, Jack L. Aronowitz

A dry reagent delivery system with membrane having porosity gradient

Patent number: 4774192

Abstract: Dry chemistry reagent system, kit and method for detection of an analyte such as glucose, cholesterol, urea, antigen or antibody. The reagent system is a porous membrane or bibulous film having a porosity gradient from one planar surface to the other. In the membrane are uniformly distributed an indicator, a flow control agent and a reagent cocktail. The membrane is also modified by a conditioning agent.

Type: Grant

Filed: January 28, 1987

Date of Patent: September 27, 1988

Assignee: Technimed Corporation

Inventors: Louis Terminiello, Jack L. Aronowitz

Automated analysis instrument system

Patent number: 4528159

Abstract: An automated instrument system for analyzing constituents of a patient sample while reacting a reagent specific for the selected constituent within the sample. The analyzer includes: a continuous flexible cuvette belt having a series of parallel discrete reaction compartments thereon, a carousel for dispensing solid tableted reagents into the compartments, a means for effecting ultrasonic dissolution of the tableted reagent in the reaction compartment, means for dispensing sample from a source thereof into a reaction compartment, including a sample source transport carousel assembly, and means for transporting the cuvette belt through a plurality of analysis stations located in a linear relationship along the path of travel of the cuvette belt.

Type: Grant

Filed: July 20, 1982

Date of Patent: July 9, 1985

Assignee: American Hospital Supply Corp.

Inventor: Max D. Liston

Solid phase system for ligand assay

Patent number: 4517288

Abstract: A method for conducting a ligand assay in an inert porous medium wherein a binding material is immunologically immobilized within the medium, which includes the steps of immunologically immobilizing a binding material within a finite zone of the medium, applying an analyte to the zone containing the immobilized binding material, applying a labeled indicator to the zone which becomes immobilized within the zone in an amount which can be correlated to the amount of analyte in the zone, applying a solvent to substantially the center of the zone to chromatographically separate the unbound labeled indicator from the zone, and measuring the amount of labeled indicator remaining in the zone.

Type: Grant

Filed: January 23, 1981

Date of Patent: May 14, 1985

Assignee: American Hospital Supply Corp.

Inventors: Joseph L. Giegel, Mary M. Brotherton

Multichannel spectrophotometer

Patent number: 4477190

Abstract: A multichannel spectrophotometer has a single radiant energy source formed into a multiplicity of radiant energy beams which are each simultaneously intercepted by segments of a rotary source filter wheel, the spectral radiant energy output selected by each filter segment being directed into a separate source radiant energy conduit and transmitted to a remote sample station where a cuvette containing a sample to be analyzed is located, the radiant energy outputs of each cuvette being directed into a separate detector radiant energy conduit where each conduit is intercepted by a filter segment of a second rotating detector filter wheel identical to the source filter wheel and rotated in aligned synchronism therewith, the spectral radiant energy outputs of each segment of the detector filter wheel being further directed into a separate radiant energy detector and signal processing electronics associated with that sample station or spectrophotometer channel from which the radiant energy signal being detected and

Type: Grant

Filed: July 20, 1981

Date of Patent: October 16, 1984

Assignee: American Hospital Supply Corporation

Inventors: Max D. Liston, David G. Dickinson, William A. Stark

Tablet dispensing device

Patent number: 4405060

Abstract: A tablet dispenser for dispensing a solid tablet or a predetermined number of tablets of a substantially uniform size from a storage area containing a relatively large number of tablets into a dispensing orifice upon operation of an external actuating mechanism. The tablet dispenser comprises a hollow body having an upper portion for storing the relatively large number of tablets and a lower base portion having the dispensing orifice formed in its bottom. A gate member is mounted for reciprocal movement above the tablet dispensing orifice and has a tablet receiving area formed therein. A field organizing member is mounted for reciprocal movement below the tablet storage portion and above the gate member and has a tablet receiving area formed therein which communicates with the tablet storage portion.

Type: Grant

Filed: July 20, 1981

Date of Patent: September 20, 1983

Assignee: American Hospital Supply Corporation

Inventor: Paul K. Hsei

Analytical fluorogenic substrates for proteolytic enzymes

Patent number: 4336186

Abstract: Fluorogenic substrates for proteolytic enzymes having the formula: ##STR1## or acid salts thereof wherein: R.sub.1 is hydrogen-L, hydrogen-D, benzoyl, benzenesulfonyl, glutaryl, pyroglutamyl, carbobenzoxy, D-serine, or carbobenzoxy-serine;R.sub.2 is hydrogen, phenyl, a straight, branched or cyclic alkyl having 1 to 4 carbons, or propionic acid;R.sub.3 is hydrogen, straight or branched or cyclic alkyl having 1 to 4 carbons, 4-aminobutane, or 3-guanidylpropane;R.sub.4 is methyl, 4-aminobutane, or 3-guanidylpropane;R.sub.5 is a fluorogenic moiety, severable from said compound by a proteolytic enzyme and having different fluorescent property when severed from said compound than when forming part of said compound.The enzymes, when reacting with the substrate, remove the fluorogenic group R.sub.5 producing an increase in its fluorescence. The increase of the fluorescence is an indication of the activity of the enzyme present. Specific enzymes thusly detectable include plasmin, thrombin, the factors X.sub.a, XI.sub.

Type: Grant

Filed: February 9, 1981

Date of Patent: June 22, 1982

Inventors: Robert J. Gargiulo, Gary A. Mitchell, Patricia M. Hudson, Sharon P. Pochron, Rolf M. Huseby, Robert E. Smith

B. BUSINESS & MEDICAL SYSTEMS (SOFTWARE IMPLEMENTED)

Multi-channel ventilation (SIDS) monitor and method

Patent number: 4686999

Abstract: The ventilation monitor of this invention includes a plurality of discrete sensors and a plurality of independent channels for processing the input signals from each of the discrete sensors. The principal category of sensor used in conjunction with this ventilation monitor is capable of the reception of information associated with breathing and cardiovascular movement. A second category of the sensor used in conjunction with this ventilation monitor is capable of the reception of audible sounds associated with breathing. Each of the individual input signals from these sensors is initially verified as being indicative of the sensation being monitored and, thereafter, compared in real time with one another and criteria stored within a microprocessor. The purpose of the comparison is to verify a normal breathing pattern and signal an alarm when the breathing pattern is abnormal.

Type: Grant

Filed: April 10, 1985

Date of Patent: August 18, 1987

Assignee: Tri Fund Research Corporation

Inventors: Leon T. Snyder, Frank A. Scarfone, James L. Reuss, George V. Campen, George H. Yates

System & Method For On-Line Auction Of A Trade-In Of A Customer Product Incident To Real-Time Negotiation Of A Replacement Product

App Num:US16/423,089

File Date:2019-05-27

Pub Num:US20200380589A1

Pub Date:2020-12-03

Assignee: Clark, Jerry

Inventors: : Clark, Jerry

Abstract: A hybrid peer-to-peer computer-implemented network or system, for connecting dealers and merchants together, in real-time, to effect a wholesale auction of a product among network members. The network or system is executable with "Software-as-a-Service" application on a computer or mobile device, having an internet connection. The application is based upon a standardized appraisal model for a product to be taken in trade on a product offered for sale by a dealer. The network or system includes a subscriber registration process for creation of a subscriber profile, a database for organization of product features and characteristics, and a series of filters for delineation of a subscriber's preferences. Each subscriber is represented as a node on the network. At any time a subscriber can participate as a seller or a potential buyer and create an appraisal of the product to be taken in trade, or compute a bid on the product.

Cloud Network Services Provider Having A Gateway For Subscriber Specified Connection To A Cloud Service Provider

Pub. No.: US 2018/0139075 (Provisional application no. 62/230,424, filed June 6, 2015)

Pub. Date:May 17, 2018

Assignee: R2 Unified Technologies

Inventors: Jamie Doherty

Abstract: A system for connection of a subscriber to a cloud service provider through a Gateway, having a proprietary routing and switching system for abstraction, modification and reassembly of a subscriber communication message (also "Data Packet"), for transmission to a subscriber specified Cloud Service Provider. This process of abstraction, modification and reassembly of the communication message, effects subscriber specified changes of (a) the routing address of the subscriber Network Address and (b) subscriber VLAN assignment of the VLAN Layer, to translate or adapt said communication message to comport with VLAN assignment, to a subscriber specified Cloud Service Provider, preliminary to transmission to a specified Cloud Service Provider. This modification and reassembly of the communication message enables subscriber connection to a cloud service provider of his own choosing, and without regard to, and independent of the infrastructure preferences of the subscriber specified communication services provider (ISP)

Internet web site program for the purchase, issue and dispensing of debit cards

Patent number 7096198

Abstract: A computerized computer program in an Internet Web site with input and output capabilities for the sale, issue and dispensing of debit cards that includes automated teller machine as dispensers for debit cards that include each one a unique identification number on a storage member thereon. A purchaser clicks the Web site address through his or her personal computer,

then, following the program steps, enters his/her particulars and those of the transaction which are merged with one of the unique identification numbers and transmitted to a remote computer facility that acts as clearing house for the users' transactions. The remote facility includes input and output means to communicate with the debit card issuer(s), the dispensers and the associated circuitry to obtain the identification numbers of the debit cards being issued and dispensed and the particulars of the holders and the transactions.

Type: Grant

Filed: December 8, 1998

Date of Patent: August 22, 2006

Inventor: Vincent Cuervo

***Apparatus and method for generation of brand name specific advertising media
(Predecessor to Travelocity & On-line Shopping – Years Ahead of Internet-Based
Systems)***

Patent number: 4703423

Abstract: An apparatus and a data processing methodology for the creation, display and/or generation of brand name specific advertising media based upon a combination of sponsor and consumer input, is provided by this invention. The apparatus and methodology of this invention have application in diverse environments with the principal utilization criteria being the consumer's need to compose an integrated listing of elements in the form of an individualized package from among a selection of products and/or services of unrelated suppliers (sponsors). The resultant listing derivative from this methodology is brand name specific, hence the characterization of such listing as an "advertising medium." For example, this brand name specific medium can be formatted as a recipe card file or as an integrated shopping list. In both of the foregoing formats, the brand name of the product sponsor is featured for each item/ingredient of the meal/recipe.

Type: Grant

Filed: July 10, 1984

Date of Patent: October 27, 1987

Assignee: Recipe Terminal Corporation

Inventors: Charles W. Bado, Randy Detrick

C. **TRADEMAN TOOLS [LINK]**

Method and device for cleaning a spray gun assembly

Patent number: 4923522

Abstract: Method comprises positioning a spray gun and its cup-connecting means in a stationary support, and its gun cup in a rotatable cup holder in a closed chamber. Then, compressed air and cleaning liquid is passed through the gun and cup-connecting means, while simultaneously rotating the cup holder and spraying the exterior surfaces of the cup, gun, and cup-connecting means and the interior surfaces of the cup. In a preferred embodiment, the spray from the gun rotates the cup holder. The device comprises the chamber, the gun support, a rotatable cup holder, a pool for

cleaning liquid, spraying means, internal means for filtering and distributing cleaning liquid to the cup connecting means and the spraying means, and means for introducing compressed air from outside the chamber into a compressed-air manifold and then distributing the compressed-air to the gun and spraying means. The device also includes means for venting air that is exhausting from the chamber and means for absorbing fumes in the exhausting air.

Type: Grant

Filed: January 19, 1989

Date of Patent: May 8, 1990

Assignee: BSD Enterprises, Inc.

Inventor: David A. Sowers

Portable liquid level

Patent number: 4773161

Abstract: A liquid level comprising a bottle for holding leveling liquid and means in its lower end for connecting to a length of hose. The bottle has a filler opening in its upper end and integral means for storing the hose around the bottle. The level may include a ventable bottle closure over the filler opening and a ventable hose closure detachably mounted on the extended end of the hose. The bottle may also include an integral clip on the outside surface of the bottle for receiving and holding an end portion of the hose. The bottle may have an integral handle on one side thereof and a mounting plate attached to the other side thereof.

Type: Grant

Filed: May 21, 1987

Date of Patent: September 27, 1988

Inventor: Rejean M. Grenier

D. HIGHWAY STRUCTURE FABRICATION METHODS & EQUIPMENT [LINK]

System and method for slip forming monolithic reinforced composite concrete structures having multiple functionally discrete components

Patent number: 9435085

Abstract: Systems and methods for the slip forming of reinforced concrete composite structures for road and bridge construction, wherein each functionally discrete component of the composite has at least a portion of its reinforcement, in common with the reinforcement from an antecedent slip formed component of the composite. This system and method are, thus suitable for forming a composite having multiple functionally discrete components within an integrated/monolithic structure. The preferred system and method can sequentially form, in order, structurally discrete component parts for composite concrete roadway structures having a road pad, (bridge) coping, traffic rail and barrier wall.

Type: Grant

Filed: May 24, 2015

Date of Patent: September 6, 2016

Assignee: RAPTOR LLC

Inventors: Patrick Shawn Free, Eric C Kontos

Tunnel mold, system and method for slip forming reinforced concrete structures with exposed rebars

Patent number: 8956075

Abstract: A slip-mold having a housing having (a) concrete hopper having (b) means for distribution of quick set concrete within said hopper, (c) a mold cavity, and (d) at least one tunnel, in communication with said mold cavity, and extending through said housing from the leading to the trailing end of said housing. The tunnel through the housing is of sufficient height and width, and positioned within said mold housing, to permit rebars, extending from an iron work array, to pass through said mold cavity without becoming embedded in concrete, concurrent with the formation of a slip formed concrete structure on a portion of said iron work array.

Type: Grant

Filed: January 23, 2014

Date of Patent: February 17, 2015

Inventors: Patrick Shawn Free, Eric C Kontos

E. ENVIRONMENTAL CONSERVATION & RECYCLING [LINK]

Closed loop system and process for conversion of gaseous or vaporizable organic and/or organo-metallic compounds to inert solid matrix resistant to solvent extraction

Patent number: 5028452

Abstract: Closed system and process for the conversion of gaseous or vaporizable organic and/or organo-metallic compound to inert solid which is resistant to solvent extraction, and is itself essentially nontoxic or convertible through oxidation or other natural processes to a toxic material. This process involves a low temperature, low energy conversion in a close system, of an organic and/or organo-metallic material by initially fragmenting such material into its basic elements follow thereafter by randomly recombining such elements as a solid coating or deposit upon a substrate. In the preferred embodiments of this invention, the toxic and/or potentially toxic material is injected as a gaseous phase into a chamber where it is subjected to an RF energy source, thereby forming a plasma which is contained within the chamber by a magnetic field.

Type: Grant

Filed: September 15, 1989

Date of Patent: July 2, 1991

Assignee: Creative Systems Engineering, Inc.

Inventor: Charles L. Beatty

Apparatus for solar heating

Patent number: 4823771

Abstract: A solar energy system for the heating of water in a spa or the like. The system comprises a solar collector array for receiving water from the spa, for heating the received water, and for then directing the heated water back to the spa. The solar collector array is formed of a plurality of sets of tubes positionable on a supporting surface adjacent to the spa with webbing coupling the tubes of each set along the majority of their lengths. Inlet and outlet manifolds couple the ends of the tubes. A submersible pump is positioned within the spa for pumping water to the solar collector array for heating. An inlet hose is coupled between the pump and the inlet manifold to conduct water from the pump to the solar collector array while an outlet hose is coupled to the outlet manifold to conduct the heated water from the solar collector array back to the spa. Also disclosed is the method of installing, using and storing the solar energy system.

Type: Grant

Filed: August 10, 1987

Date of Patent: April 25, 1989

Inventor: Jurgen Menning

F. CONSUMER PRODUCTS [LINK]

Systemic insect repellent composition and method

Patent number: 4876090

Abstract: A systemic insect repellent composition is provided which affords essentially continuous protection of domesticated animals against fleas, ticks and other blood feeding pests. The systemic compositions of the invention comprise two essential ingredients: Vitamin B.sub.1 and allyl sulfide (garlic oil) dissolved in a soybean oil base. The composition is preferably consumed by the animal during its normal feeding. The dosage consumed by the animal is adjusted to provide a prescribed minimal blood level which insures continuous insect repellency. Unlike the more popular preparations, this composition is not inherently toxic, is not offensive to the animal and does not give the animal bad breath.

Type: Grant

Filed: September 21, 1987

Date of Patent: October 24, 1989

Inventor: Richard Weisler

Fitted sheet and sheet-holding fixture for a waterbed

Patent number: 4833744

Abstract: A novel fitted sheet and a novel rigid fixture for holding a corner of the novel sheet in place on a rectangular waterbed mattress. A fixture is positioned adjacent each corner of the mattress with a base portion under the mattress, an upstanding corner portion having a back side against the corner of the mattress and a face side having a fastener member attached thereto, and a spacing portion spacing the face side from the corner of the frame that holds the waterbed mattress. The novel fitted sheet has a mating fastener member on the inside surface of each of its corners. In combination, the novel sheet fits over the mattress and the corner portions of the four

(4) fixtures with the fastener members fastened together, holding the novel sheet in place. Because the corners of the mattress are spaced away from the frame, the mattress does not have to be lifted or otherwise manipulated to position the sheet on, or remove the sheet from, the mattress.

Type: Grant

Filed: July 18, 1988

Date of Patent: May 30, 1989

Inventor: David I. Correa

G. MILITARY & AVIATION EQUIPMENT [LINK]

Airfoil configuration (Originally DOD Classified)

Patent number: 4927100

Abstract: An airfoil having two (2) basic components, a sail and spoiler, associated with the leading edge of the sail, is herein disclosed. This unique airfoil design has application in flexible wing aircraft (i.e., ultralites), sport parachutes and sport kites. In the typical sport kite embodiment of this invention, there will generally be at least three (3) aerodynamic flight control surfaces: a sail, a keel, and a flexible resilient spoiler attached to the leading edge of the sail. The sail material is itself resilient, however, sufficiently rigid to maintain a preset configuration without the need for struts, spars or extrinsic physical support. A spoiler, which is located along the entire leading edge of the sail, provides additional structural reinforcement to the sail while undergoing controlled deformation in gusty or high winds. The effect of such deformation of the spoiler causes the sail to stall before any physical damage can occur.

Type: Grant

Filed: November 11, 1988

Date of Patent: May 22, 1990

Assignee: Patrician Corporation

Inventors: Eugene F. Provenzo, Jr., Peter A. Zorn

H. REPROGRAPHIC (PHOTOSENSITIVE MATERIALS/METHODS)

Polymerized vinyl carbazoles sensitized by nitro-substituted 9-dicyanomethylene fluorenes

Patent number: 4069046

Abstract: An electrophotographic plate is described comprising a charge-transfer complex of an aromatic resin and certain Lewis acids; typically 9-dicyanomethylene-2,4,7-trinitro-fluorene. Also described are methods of preparing and using this plate.

Type: Grant

Filed: January 29, 1974

Date of Patent: January 17, 1978

Assignee: Xerox Corporation

Inventors: Helmut Hoegl, Giacomo Barchietto

Electronic halftone imaging system

Patent number: 4051536

Abstract: An electronic halftoning image reproduction system wherein a halftone screen function is combined with pictorial information, typically by addition, to provide a sum function. In a second channel the pictorial signal is averaged over the area corresponding to one period of the halftone screen function and the average is utilized to determine the percent of the area to be turned white within that halftone dot. This is accomplished by thresholding the sum function with a dynamically adjusted threshold for each period of the halftone dot such that the percentage of white matches the average pictorial signal. In another embodiment wherein the desired gray scale of the reproduction is different from that of the original image, the average pictorial signal may be adjusted in some predetermined manner and the percentage of white is matched to the adjusted signal.

Type: Grant

Filed: March 14, 1975

Date of Patent: September 27, 1977

Assignee: Xerox Corporation

Inventor: Paul G. Roetling

Process for preparation of solid phase dispersion of photoconductive materials

Patent number: 4030991

Abstract: Process for preparation of a solid phase dispersion of photoconductive materials in an insulating binder matrix from a film forming insulating polymeric resin and an organo-selenium compound capable of undergoing selective decomposition in response to an appropriate stimulus; whereby, elemental selenium is extruded from said organo-selenium compound and deposited in the binder matrix. Because this extrusion/deposition of elemental selenium can be performed selectively, it is possible to prepare binder films having photoconductive image patterns which are suitable for use in range extended and conventional xerography.

Type: Grant

Filed: January 15, 1976

Date of Patent: June 21, 1977

Assignee: Xerox Corporation

Inventors: Joseph Y. C. Chu, W. H. H. Gunther

Intrachain charge transfer complexes

Patent number: 4025710

Abstract: Method for achieving free radical initiated copolymerization of an addition monomer having pendant therefrom a strong donor group with an addition monomer having pendant therefrom a strong acceptor group. Copolymers prepared according to this method can be

represented by the following formula: ##STR1## wherein R is hydrogen or methyl;R' is hydrogen or methyl;R'' is hydrogen or methyl;R''' is selected from the group consisting of --NO.sub.2, halogen, --CN and --CF.sub.3 ;X and Y are independently selected from the group consisting of hydrogen, chlorine, bromine, alkyl of 1-4 carbon atoms and phenyl;a and b can range from 0-4; andn and m can range from about 5 to about 95 percent.The polymeric compositions prepared according to this method are suitable for use in electrophotography either alone as the primary photoresponsive entity or in combination with other photoconductive materials.

Type: Grant

Filed: September 13, 1976

Date of Patent: May 24, 1977

Assignee: Xerox Corporation

Inventors: Milan Stolka, Sam R. Turner

Multi-layered photoconductive member

Patent number: 4012251

Abstract: Multi-layered electrophotographic imaging member having a composite photoconductive insulating film wherein one layer of said film comprises a photoconductive material capable of substantial spectral response in the visible region of the electromagnetic spectrum, and a second layer of an electronically active insulating polymeric material, contiguous with said photoconductive layer, which is transparent, capable of facile transport of electrons which are injected into it upon photoexcitation of the contiguous photoconductive layer and yet incapable of substantial spectral response within the wavelength of primary photoresponse of the contiguous photoconductive layer.

Type: Grant

Filed: May 22, 1975

Date of Patent: March 15, 1977

Assignee: Xerox Corporation

Inventor: Sam R. Turner

Photoconductive elements with copolymer charge transport layers

Patent number: 4007043

Abstract: Method for achieving free radical initiated copolymerization of an addition monomer having pendant therefrom a strong donor group with an addition monomer having pendant therefrom a strong acceptor group. Copolymers prepared according to this method can be represented by the following formula: ##STR1## wherein R is hydrogen or methyl;R' is hydrogen or methyl;R'' is hydrogen or methyl;R''' is selected from the group consisting of --NO.sub.2, halogen, --CN and --CF.sub.3 ;X and Y are independently selected from the group consisting of hydrogen, chlorine, bromine, alkyl of 1 - 4 carbon atoms and phenyl;a and b can range from 0 - 4; andn and m can range from about 5 to about 95 percent.The polymeric compositions prepared according to this method are suitable for use in electrophotography either alone as the primary photoresponsive entity or in combination with other photoconductive materials.

Type: Grant

Filed: July 16, 1975

Date of Patent: February 8, 1977

Assignee: Xerox Corporation

Inventors: Milan Stolka, Sam R. Turner

Organo-chalcogen compositions

Patent number: 3971742

Abstract: Photoconductive composition comprising an organo-chalcogen polymer of the formula:--Se -- A -- Se -- Te.sub.m --.sub.nwhereinA is a member selected from the group consisting of an alkylene radical having from about 9 to about 20 carbon atoms, a divalent aromatic radical having from about 6 to about 50 carbon atoms and a divalent heterocyclic radical;m is at least 1; andn is at least 2Or--B -- Se.sub.a.sub.-x -- Te.sub.m -- Se.sub.x --.sub.bwhereinB is a member selected from the group consisting of divalent hydrocarbylene radicals and divalent heterocyclic radicals;a is a positive integer of at least 2;x is a positive integer of at least 1 but less than a;m is a positive integer in excess of 1; andb is a positive integer in excess of 1.This composition possesses enhanced spectral response and electrophotographic speed over compositions containing selenium alone.

Type: Grant

Filed: December 13, 1973

Date of Patent: July 27, 1976

Assignee: Xerox Corporation

Inventor: Wolfgang H. H. Gunther

Direct alpha to X phase conversion of metal-free phthalocyanine

Patent number: 3932180

Abstract: Process for direct alpha to X phase conversion of metal-free phthalocyanine. In this process, the alpha polymorph of a metal-free phthalocyanine pigment can be directly converted to the X form by depositing the alpha form of the pigment on a suitable substrate followed by in situ conversion of this deposit by controlled heating. The X form of metal-free phthalocyanine is known to possess good electrophotographic speed, and, thus, can be used either alone or in combination with other photoconductive materials in electrophotography.

Type: Grant

Filed: June 4, 1973

Date of Patent: January 13, 1976

Assignee: Xerox Corporation

Inventors: Clifford H. Griffiths, Michael S. Walker

I. POLYMERS (STRUCTURAL PLASTICS & FOOD GRADE PACKAGING)

Substituted decahydroquinolines

Patent number: 4326061

Abstract: Novel substituted decahydroquinolines are prepared and used as ultraviolet (UV) light stabilizers for materials subject to UV light degradation, particularly for polyolefins. Compositions containing the decahydroquinoline compounds exhibit excellent stability to UV light.

Type: Grant

Filed: June 30, 1977

Date of Patent: April 20, 1982

Assignee: The B. F. Goodrich Company

Inventors: Pyong-Nae Son, Robert W. Layer

High molecular weight piperidine derivatives as UV stabilizers

Patent number: 4326063

Abstract: Process for the selective reductive alkylation of a cyclic diamine by catalytic condensation of the cyclic diamine with a heterocyclic ketone. In the process described herein, the reaction conditions and catalyst which are selected are directive for the synthesis of the N,N' substituted cyclic diamine. The compounds produced according to this procedure are readily isolated and are effective as UV stabilizers.

Type: Grant

Filed: July 24, 1980

Date of Patent: April 20, 1982

Assignee: The B. F. Goodrich Company

Inventor: Pyong-Nae Son

Method for extending the useful life of dienic polymers which are sensitive to oxidative degradation and stabilized compositions resistant to oxidative degradation

Patent number: 4304712

Abstract: Method for extending the useful life of dienic polymers which are sensitive to oxidative degradation. According to this method such polymers are combined with a stabilizer effective amount of at least one tetrahydro-1,5-benzodiazapene compound of the formula: ##STR1## wherein R.sub.1 through R.sub.4 are independently selected from the group consisting of hydrogen, alkyl of 1 to 12 carbon atoms, cycloalkyl, aryl, aralkyl, provided further that R.sub.3 and R.sub.4 can collectively form a cyclic, alicyclic, aromatic or heterocyclic ring pendant from the two position of the above compound and R.sub.1 and R.sub.2 can collectively form an alicyclic ring. The polymeric compositions formed from dienic polymers and the above stabilizer are highly suitable to use in the preparation of components for the automotive and electronics markets.

Type: Grant

Filed: April 3, 1978

Date of Patent: December 8, 1981

Assignee: The B. F. Goodrich Company

Inventor: John T. Lai

Piperidinyl substituted 1,4-diaza-2-cycloalkanones and derivatives thereof

Patent number: 4298737

Abstract: Improved process for the synthesis of piperidinyl substituted 1,4-diaza-2-cycloalkanones and substituted derivatives thereof, involving solid-liquid phase transfer phenomena. More specifically, the subject compounds are prepared by combining a piperidinyl substituted diamine and a suitable coreactant in the presence of a phase transfer catalyst and caustic. Compounds prepared in this fashion are suitable as UV stabilizers for photodegradable plastics.

Type: Grant

Filed: October 22, 1979

Date of Patent: November 3, 1981

Assignee: The B. F. Goodrich Company

Inventors: John T. Lai, Pyong-Nae Son

Selective catalytic oxidation of carbon monoxide in the presence of olefin monomer

Patent number: 4185039

Abstract: Process for the selective catalytic oxidation of carbon monoxide in the presence of olefin monomers without appreciable oxidation of such monomers. According to this process, a gaseous waste stream containing carbon monoxide, olefin monomers, and a variety of other agents, is contacted with a catalytically effective amount of copper chromite, preferably in an oxygen enriched environment, at temperatures in the range from about 200.degree. C. to about 325.degree. C. The contact time of the stream with the catalyst bed can vary within broad limits, and the duration of which will vary inversely with the temperature of the catalyst bed.

Type: Grant

Filed: December 26, 1978

Date of Patent: January 22, 1980

Assignee: B. F. Goodrich Company

Inventor: Jamal S. Eden

Piperidinyl substituted 1,4-diaza-2-cycloalkanones and derivatives thereof

Patent number: 4298737

Abstract: Improved process for the synthesis of piperidinyl substituted 1,4-diaza-2-cycloalkanones and substituted derivatives thereof, involving solid-liquid phase transfer phenomena. More specifically, the subject compounds are prepared by combining a piperidinyl substituted diamine and a suitable coreactant in the presence of a phase transfer catalyst and caustic. Compounds prepared in this fashion are suitable as UV stabilizers for photodegradable plastics.

Type: Grant
Filed: October 22, 1979
Date of Patent: November 3, 1981
Assignee: The B. F. Goodrich Company
Inventors: John T. Lai, Pyong-Nae Son

Soft-seeded tougheners for polyvinyl chloride

Patent number: 4173596

Abstract: The impact resistance of rigid polymeric resins (e.g. PVC, SAN, PMMA, etc.) is enhanced by the incorporation therein of an improved toughener. This toughener comprises three distinct phases: (a) a core of thermoplastic or thermoset resin having a Tg below room temperature, (b) a rubber-like layer overpolymerized on the core, and (c) a relatively hard polymer layer overpolymerized on the rubber layer. The utilization of a "soft" core, or seed, apparently enhances the efficiency of the toughener in the rigid polymer. In one of the preferred embodiments of this invention, the improved toughener comprises a seed derived from a partially cross-linked poly(n-butylacrylate), a rubber-like (or intermediate) layer derived from a monomer mixture containing n-butylacrylate and an addition monomer and an outer layer (or shell) derived from a monomer mixture containing styrene and methylmethacrylate.

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Assignee: The B. F. Goodrich Company
Inventor: Elmer J. De Witt

Dual purpose stabilizer compounds and polymer compositions containing same

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Abstract: Diesters of partially hindered mercaptophenols and 3,5-di-alkyl-4-hydroxybenzoic acid and its corresponding acid salt, wherein such diester corresponds to the following formula ##STR1## wherein R and R.sub.1 are the same and are selected from among the following ##STR2## with R.sub.6 and R.sub.7 being an aliphatic hydrocarbon radical of 3 to 10 carbon atoms; and y being 0-5; R.sub.2 is a tertiary aliphatic hydrocarbon radical having from 4 to 10 carbon atoms or an alicyclic hydrocarbon radical having from 4 to 10 carbon atoms, where the carbon atom of attachment to the aromatic ring is fully substituted; R.sub.3 is hydrogen, halogen, an aliphatic hydrocarbon radical having from 1 to 10 carbon atoms or an alicyclic hydrocarbon radical having from 3 to 10 carbon atoms; and R.sub.4 and R.sub.5 is ##STR3## where WHERE A and A' are independently selected from among hydrogen, an aliphatic hydrocarbon radical of 1 to 10 carbon atoms or an alicyclic hydrocarbon radical of 3 to 10 carbon atoms.

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Inventor: Dwight W. Chasar

Process for preparation of cis-1,4 poly(isoprene)

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Abstract: Improved continuous process for synthesis of cis-1,4 poly(isoprene). In the commercial process for synthesis of cis-1,4 poly(isoprene) only a portion of the monomer charged is polymerized. The polymer, thus obtained, is separated from the unreacted monomer which in turn is recycled with solvent back into the system for conversion to additional polymer. Fresh monomer must be added from a separate feed to this recycle stream in sufficient quantity to replace or "make-up" for that which was converted to polymer. In the improved process of this invention, this "make-up" isoprene monomer is dried and then is introduced into the process subsequent to the initiation of polymerization of the isoprene monomer already present within the system, but prior to deactivation of the polymerization catalyst. Dehydration of "make-up" isoprene prior to its introduction into the process stream at the above juncture avoids deactivation of the still active catalyst with water.

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Inventor: Robert E. Beauregard