Our products are there to meet you as society steps forward.

Amazingly fine high-definition video content can be enjoyed on a display! Efficient utilization of natural energy is increased further! Safer, more environmentally friendly and comfortable driving experiences are realized! These advances in the world are supported by a wide range of Hitachi Chemical products. Creating innovations for use in our daily life and society. Our technologies and ideas will continue to be expanded and enriched!

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Semiconductor Related Materials

Wafer Process Related Materials

**CMP slurries**
Chemical Mechanical Polishing (CMP) slurries are polishing materials used to polish and smooth out the unevenness of the interlayer dielectric and in metal lines formed in the process of characterization. In addition to ceria-type slurry that minimizes polishing damage for Si, we also offer a lineup of slurry for copper wire formation.

**High heat-resistant liquid polyimides**
These are liquid coating type insulation materials. Primarily used for buffer coating layers, passivation and re-wiring insulating layers. A wide range of products for suit various purpose is available including environmentally friendly aqueous developable photosensitive polyimide.

Photosensitive Insulation Coatings

These are photosensitive material of a coating type for forming insulating layers in semiconductor packages and are positive-type films that can be developed using an alkal aqueous solution. These can be cured at temperatures as low as 200°C or even lower and features good curing characteristics.

Fabrication Process Related Materials

**Die Bonding Films, Die Bonding Pastes**
These materials are used to bond IC chips to lead-frame or package substrates. In addition to having strong adhesion, they help to mitigate the distortions that occur due to differences in the coefficient of thermal expansion of each part. As a result, they contribute to the high reliability of semiconductor packaging.

**Epoxy molding compounds**
These protect IC chips from heat, moisture, dust and physical impacts. Their excellent endurance in reflow processing contributes to high reliability. While responding to diversifying semiconductor packaging, we offer products that meet our customers’ requirements.

**High heat resistant coating materials**
These materials provide excellent adhesion to various elements and form an insulation film with high heat resistance, excellent flexibility and toughness. They are used for automotive semiconductors, etc., to improve adhesion between molding materials and substrates and reduce internal electric leakage, contributing to a higher reliability.

**Release films for semiconductor molding**
These films are used for collective molding of semiconductor packaging. As the release layer closely sticks to chips and lead frames, generation of burns in molding process is prevented with little glue remaining after releasing. The antistatic type can reduce the damage to chips from static electricity.

**Epoxy Resin Hardeners**
These hardeners are used as epoxy resin setting agents in automotive electronic components and electrical insulators for heavy electric machinery. Because of their excellent transparency, they are also used for LED encapsulating resin in electric sightboards located in stadium.

Inorganic Materials

Carbon Products

**Carbon Anode Materials for Lithium-ion Batteries**
These are graphite materials used in anodes of batteries. The product lineup includes artificial graphite featuring high capacity and excellent charging and discharging characteristics with many internal pores and natural graphite featuring a long life through our unique technology to reform grain surfaces.

**Carbon brushes**
In motors and generators, these brushes conduct electricity by sliding. We supply a wide variety of carbon brushes from large brushes for electrical generation and railway cars to small brushes for automobile electrical equipment and micromotors.

**Carbon Sliding Materials**
Our heat- and chemical-resistant carbon sliding parts are self-lubricating, and therefore no lubrication is required. They can be cut or ground as easily as metal and can be used in a variety of industrial machinery, such as chemical pumps.

**Glass-like Carbons**
These high-density materials with their smooth, glass-like surface are substantially corrosion resistant. The extremely low rate of missing particles and high solidity gain these materials a broad range of applications, including parts used during semiconductor manufacturing processes, insulating materials for high-temperature furnaces and electrochemical equipment parts.

**Vertically-Oriented Graphite**
These sheets have a very high thermal conductivity in vertical direction orientation. The sheets are used as heat dissipating materials for semiconductor packaging of servers etc. As they are flexible and can absorb the shock on the attaching surface and follow the warpage of semiconductor packaging, they contribute to improving the reliability of electronic equipment.

Thermal Conductive Sheets

**High-density Silicon Carbide Ceramics**
These are fine ceramics of pressureless sintered alpha carbide materials that are extremely hard and highly resistant to high temperature and sliding wear. They are used mainly in mechanical seals for automobiles and semiconductor manufacturing equipment components.

**Alumina Ceramics**
These ceramics are made by uniformly and precisely burning very pure, minute crystals, and are used in parts for semiconductor manufacturing equipment and liquid crystal display manufacturing equipment.

Ceramics

Polymer Science Materials

**Chemical Raw Materials**

**Epoxy Resin Hardeners**
These hardeners are used as epoxy resin setting agents in automotive electronic components and electrical insulators for heavy electric machinery. Because of their excellent transparency, they are also used for LED encapsulating resin in electric sightboards located in stadium.

**Functional Acrylic Monomers**
Monomers that are used as raw materials for high-molecular materials and as reactive diluents. These monomers can enhance the performance of polymers by reacting with them. They are used in various applications including photosensitive dry film, materials for touch panels and displays, and a wide variety of adhesives.
Functional Materials

Functional Resins

Alkyl Phenol Resins

These materials are mainly used in rubber products, tires and paint and come in thermally reactive and non-thermally reactive types. These resins are highly regarded for their superior chemical resistance and thermal stability and are employed in a diverse range of applications in both consumer and industrial markets.

Polyester Resins

These are saturated polyester resins containing adipic acid in phthalic acid as ingredients. By combining it with various types of inorganic, polyester resin forming various characteristics such as toughness, water resistance, can be obtained. They are used in synthetic leather, paints, adhesives and building materials.

Wrapping Films for Food

These films are mainly used in professional settings such as restaurants and hotels. They can be cut easily and have excellent stretchability and adherence so that containers can be wrapped tightly. We supply various sizes from 15 to 60cm in width to meet user requirements. We are also supplying wrapping film for home use.

Display Related Materials

Circuit Connecting Films for Displays

These circuit connecting films satisfy both electrical conductivity and insulation performance and enable the connection of numerous micrometer scale electrodes at a time. They are used widely in smart phones and tablet PCs, contribute to displays of higher definition images, and the creation of smaller, thinner devices.

Transparent Conductive Transfer Films

These transparent conductive films form electrode patterns on various substrates for touch panels. These films satisfy both conductivity and transparency, and enable customer’s upgrading production efficiency because of shortening manufacture process.

Printed Wiring Board Materials

Base Materials

Glass Epoxy Multilayer Materials

These are multilayer materials featuring electric characteristics required for high-speed electric signals and high heat resistance. These are used in network-related equipment such as routers and servers.
Advanced Components and Systems

Process Materials

Photosensitive Dry Films for Printed Wiring Boards
These are film-type resists which are applied onto the copper-clad laminates to create circuits for the printed wiring boards. These feature high sensitivity, high resolution, and high adhesion with strong tenting ability to create high density patterns.

Photosensitive Solder Resist Films
These are moisture resistant insulating films for semiconductor packages. Featuring a high KSTL resistance, the materials are dry films free of halogen, protect circuits and prevent short-circuits. Because of its high flatness, it contributes to forming fine wiring.

Photosensitive Liquid Solder Resists
These are liquid moisture resistant insulating materials for semiconductor package substrates. They are halogen-free and contribute to high packaging reliability because of their high endurance to a heal cycle and reflow processing. These low levels of warpage achieve thinner substrates for package.

Others

EV Materials

White Epoxy Molding Compounds for Reflectors
These materials are used for the reflector part of the LED package. Using a thermostetting resin, these materials feature less lowering of reflectance even at a high temperature, long life and high reliability.

Evaporation Coated Products

Evaporated Films
These film products are deposited with aluminum. Evolving in strength, reflectivity and heat insulation, these films are used in wrapping toolkits, agricultural applications to increase cultivation efficiency, emergency blankets and other applications.

Plastic Molded Products

Small Precision Moldings
These are ultra-small, precision moldings that are used in electronics equipment. Using our unique die design, manufacturing and molding technology, we supply a wide range of products such as connectors with a 0.2mm pitch or connector connectors less than 5mm in size, strongly supporting miniaturization and weight reduction of equipment.

Precision Mold Materials (Resin Coated Sand)
These materials are used for making molds by the shell molding method. High functionality and reliability have been achieved by coating each grain of silica sand with a phenolic resin. Various types of sand are available tailored to customer requirements.

Hebei Chemical Technic Service Co., Ltd.

LED Materials

Thermal Management Materials

High Thermally Conductive Insulation Adhesive Sheets
These insulating materials have high thermal conductivity in all directions with a high degree of adhesion, and are used as heat dissipators. These can enhance the heat dissipation properties of the electronic parts used for power inverters in hybrid automobiles, electrical home appliances, LED lights, computer peripheral equipment and so on.

Evaporated Films

System for Processing Carbonic Acid Gas for Strawberry Seedlings
In this system, strawberry seedlings before planting are sealed using an evaporated film deposited with aluminum and carbonic acid gas. It is filled in sealed bags to eradicate various insects such as spider mites. An agricultural chemical is not used and spider mites including eggs on the backsides of the leaves can be exterminated thoroughly without providing a drug tolerance to mites.

Structure Parts

These products are manufactured by compression molding and sintering of metal powders. The high-precision compression molding process, sintering joint technology and other appropriate technology realize both excellent mechanical properties and complex shapes. They are stably used in engines, transmissions and automobile power trains, industrial equipment and other applications.

Advanced Components and Systems

Automotive Products

Plastic Molded Products

Interior and Exterior Plastic Molded Products
We supply diverse interior and exterior molded products from small to large sizes such as instrumentation panels, bumpers and front lids. For exterior molded products, our unique foaming technology realizes a light weight and excellent appearance without reducing the rigidity.

Molded Plastic Rear Door Modules
Automobile rear door modules that were made of metal are now manufactured by molding them using a plastic resin and combining various rear door components in them. We have developed a composite material featuring high strength, rigidity and resistance to shock, enhancing the automobile design freedom and reducing the automobile weight.

Composite Moldings for Electric and Electronics Components
These are molded electric components produced through integrated molding of a high-durability resin and parts that contain metals. Aluminum parts are now used to reduce the weight of these components and they are used in IPM (insulated power modules) of automobile, chip carriers, automobile and other applications.

High-strength Plastic Gears
These gears use reinforced fiber as a base material and are made by molding a resin that excels in strength and heat resistance. Used in secondary balancing shaft gears of automobile and ship engines that require extremely high durability and reliability, these gears reduce the overall engine weight and keep noise and vibration to a minimum while automobiles and ships are in cruise mode.

Fricition Materials

Disc Brake Pads
These disc brake pads are used in automobiles and motorcycles. Each product has specific features such as superior braking, noise resistance, and wear resistance that contribute to the improvement of brake performance, reduction of stopping distance, and extension of service life.

Thermal and Noise Insulation Materials

Direct Insulation Products
These are thermal insulation parts for automobile exhaust systems, etc. By the combination with materials with excellent heat-insulating properties, sound absorption, heat resistance and durability, they contribute to the improvement of fuel efficiency and reduction of noise. We can respond to your wide range of needs from the selection of materials to the designing of shapes.

Plastic Molded Products

Powder Metal Products

Structure Parts
These are powder metal products which have functions or properties such as lubricating properties, resistance to heat, resistance to oxidation, magnetic properties and various others. They are mainly used for rotating or sliding parts such as bearings, guide bars, fuel injector cores for automobiles, joints for industrial equipment, and other applications.
Energy Storage Devices and Systems

Batteries

Automotive Batteries
These batteries are for automobiles featuring a high durability. A versatile lineup of automotive batteries can be used in vehicles installed with an idle reduction system, vehicles equipped with a charging control system, electric vehicles, and business vehicles such as buses and trucks, to support the evolution of the car society.

Lead Acid Batteries for Industrial Use
These are industrial storage batteries of a control valve type, featuring long life, high reliability and low maintenance requirements, such as no refilling of water. In addition to backup applications, they are also used in alleviating output fluctuations of renewable energy power generation that are easily affected by weather such as wind power generation.

Traction Batteries
These are for motor-driven forklifts featuring durability against frequent charging and discharge, and discharge performance at low temperature. The batteries exhibit high performance even under severe conditions such as continuous long-hour operation and sub-zero temperature operation.

Capacitors

Aluminum Electrolytic Capacitors, Plastic Film Capacitors
These capacitors are widely used in industrial equipment for voltage smoothing of power supply circuits and as a film noise in electronic circuits. We supply compact aluminum electrolytic capacitors that generate a large output and plastic film capacitors that are resistant to humidity and flame and that can be surface mounted.

Power Supply Systems
These are power storage systems that combine bidirectional converters and lead acid batteries or lithium-ion batteries. As a power peak cutting system to control the peak in power consumption during daytime by effectively using the electric energy available during nighttime, these support energy management of factories and offices.

Lithium-Ion Batteries for Industrial Use
The batteries are lightweight and compact, allowing charging and discharge of a large current. Thanks to their large capacity, these batteries can be found in backup power supply systems, large stationary systems for storage of electric energy and power supplies for large motor-driven machines such as construction machinery.

Electronics Components

Printed Wiring Boards

Multi Wiring Boards
These wiring boards have circuits formed by burying polyamide-coated copper wires into the insulation layer with a wiring machine, and are used mainly in IC testers. The boards achieve high density and excellent electrical characteristics while realizing simplified designs, resulting in shorter lead times.

High Layer Printed Wiring Boards
These printed wiring boards are compatible with dense, multilayer devices. These boards are used in high-end telecommunication equipment for cloud computing, including servers, routers and storage devices.

Products and Services Related to Life Science Diagnostics / Instruments

Reagents for Automated Clinical Chemical Analyzers
These reagents are widely used to measure a variety of markers such as HDL cholesterol, LDL cholesterol, and triglycerides for the diagnosis of dyslipidemia, and blood sugar and Hemoglobin A1c for the diagnosis of diabetes.

Allergy Diagnostic Systems
This system is for measuring allergen-specific IgE antibodies in serum to detect substances causing allergies. It measures 40 types of IgE antibodies including pollen and foods simultaneously and provides abundant data through a single test.

Immunological Testing Reagents and Analyzers
These reagents and analyzers employ principles of antigen-antibody interaction. They are widely used to measure a variety of markers for heart diseases, infectious diseases, hormones, bone metabolism, and fecal occult blood for colorectal cancer screening.

Point Of Care Testing (PCT)
The POCTs provide simple, rapid testing to check results on the spot at hospitals and doctors’ offices. We are supplying hemoglobin A1c analyzers, urine test strips, rapid test kits for allergic conjunctival diseases, and rapid test kits for the influenza virus.

Research Use Only mRNA Analysis Kit - Blood/Urine
The Research Use Only kit for isolation of exosomal miRNA from biological samples such as plasma and urine. Exosomes and microvesicles (EVs) can be captured, mRNA can be isolated and cDNA can be synthesized through a single platform without ultracentrifuge. The kits are used as a tool for biomarker discovery in both academia and pharmaceutical companies.

Service for Regenerative Medicine
Development of Manufacturing Methods and Contract Manufacturing of Regenerative Medicine Products
We perform development of manufacturing methods and the contract manufacturing of regenerative medicine products outsourced by pharmaceutical companies and research institutes. These services are performed at ourickle manufacturing facilities, which incorporate globally harmonized quality control systems. Regenerative medicine products: Products that are manufactured by cultivation in other appropriate organisms of human or animal cells to be used for the treatment and prevention of disease.