

Baspar Chemi Sepidan Holding

Catalog of products

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Knowledge

Knowledge-based production activities of Baspar Chemi Sepidan Holding, are the advantages of this group in the industry and the market, among which, production of Various compounds and polymer masterbatches have a special place. These products are produced in Two factories «Baspar Chimi Sepidan» and «Sepid Chimi Parto» with the most advanced Lines, devices, equipment and production capacity of 70 thousand ton/ year.



Masterbatches

Additive Masterbatches

- Flame Retardant Masterbatch
- UV Light Stabilizer Masterbatch
- Processing Aid Masterbatch
- Antioxidant Masterbatch
- Antistatic Masterbatch
- Slip Masterbatch
- Antiblock Masterbatch
- Nucleating Masterbatch
- Slip-Antiblock Masterbatch
- Optical Brightener Masterbatch

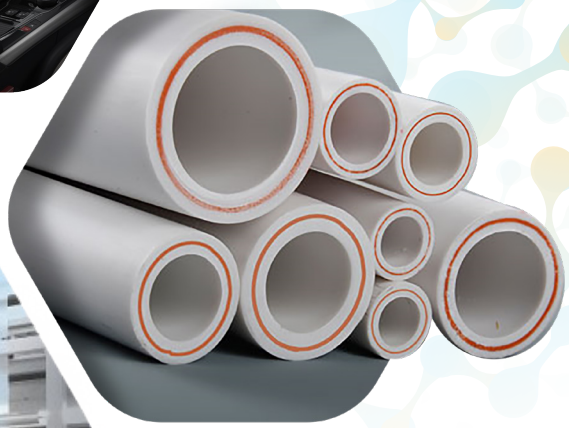
White and Filler Masterbatches

- White masterbatches with different titanium dioxide content from 10 to 70 percent
- Filler masterbatches with different filler content from 10 to 70 percent

Fields of application where Masterbatches are used

- Raffia
- Injection Molding
- Extrusion
- Film and sheet
- Pipe and fittings
- Packaging
- Preform
- Rotational Molding
- Blow Molding
- Textile Fibers
- Agriculture
- Automotive
- Electrical and Electronics









Compounds

- Polymer Compounds Reinforced with Glass Fibers
- Polymer Compounds with Minerals Fillers
- Self-color and Transparent Colored Polymer Compounds
- Flame Retardant Polymer Compounds
- Engineering Polymer Compounds
- Engineering Alloys

Masterbatches

Masterbatches are products that combine polymers with pigments and other additives at an optimal ratio. These products have similar appearance and characteristics to the original polymer and are sold in granulated form. The base polymer compound in these products often includes polyethylene (PE), Polypropylene (PP), Polycarbonate (PC), polyesters (PET), polystyrene (PS) Acrylonitrile Butadiene Styrene, etc.

Slip Masterbatch

Slip Masterbatch is used to reduce the slip resistance of the film or facilitate easy removal of films from equipment. The best industrial slip additives among chemicals are amide compounds. Slip additives are often divided into two fast and slow-acting categories which are adsorbed on the surface of polymer materials and result in a slippery surface. The speed and the amount of adsorption depend on the physical structure and thickness of polymer compounds as well as the amount of mismatch between slip compound and polymer substrate.

Advantages

- Decreasing the friction coefficient and increasing the smoothness and softness of the surface
- Facilitating more rapid opening and closing of the film rolls.
- Facilitating the removal of injected pieces

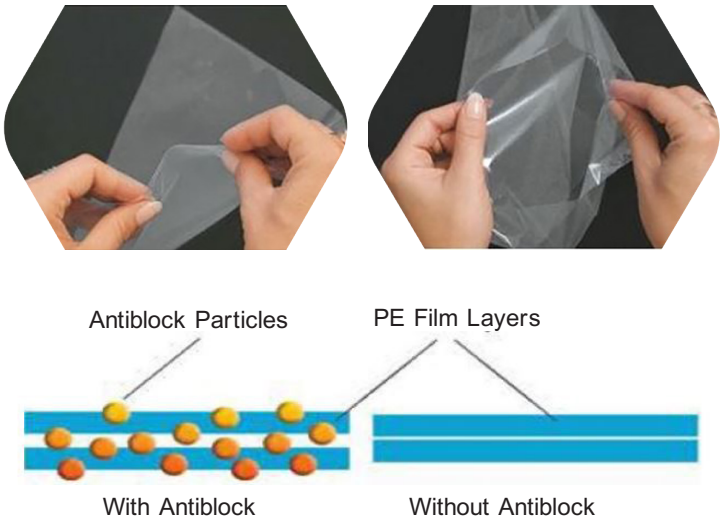
Applications

- Single and multilayer polyethylene and polypropylene films.
- Injection Molding



Antiblock Masterbatch

Blocking is defined as the adhesion of two adjacent film surfaces together. This phenomenon is often observed in polyethylene and polypropylene films due to the Van der Waals forces between two amorphous areas. These forces increase with the decrease in the distance between two layers. One of the other causes of this phenomenon is the tendency of compounds with lower molecular weights for migrating toward the surface of the film. One of the best methods for fixing this problem in film industries is the use of antiblock masterbatches. These compounds create a coarse surface on the film, decreasing the active surface of the layers and increasing the distance between layers, thus decreeing the friction coefficient.



Advantages

- Facilitating the separation of two film layers;
- Facilitating the opening of films
- Facilitating the removal of injected parts

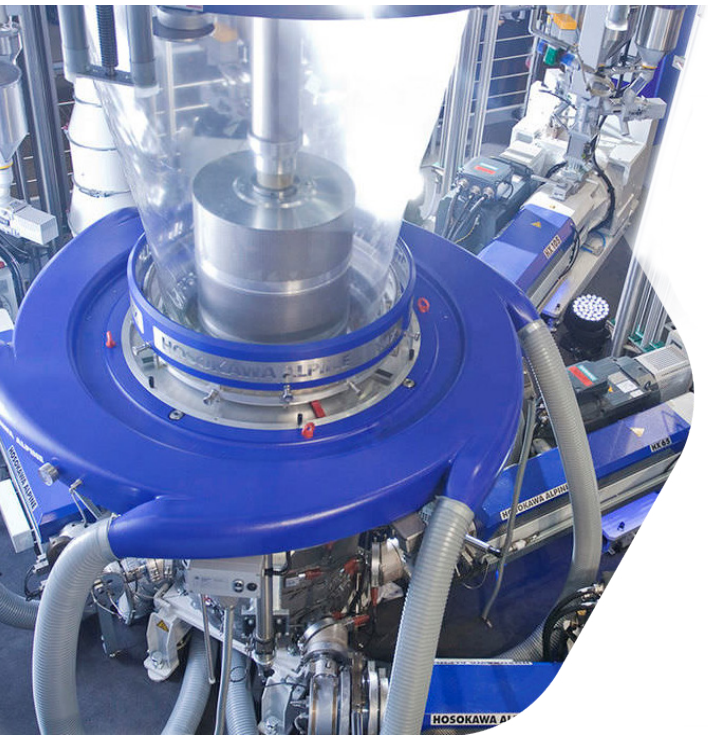
Applications

- Polyethene and polypropylene films.
- Injection molding



Processing Aid Masterbatch

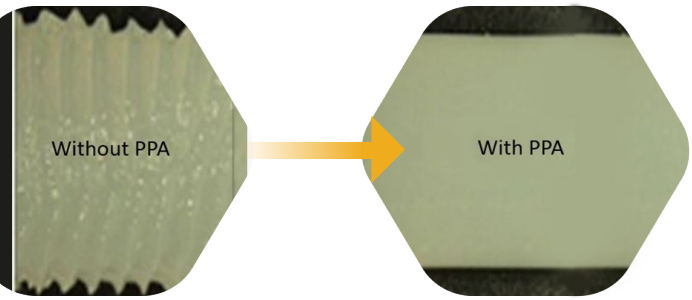
Processing aid masterbatches affect the processability of polymers and the polymerization process, resulting in an improved production process and better quality of the final product. In other words, using processing aids during the production of polymer products including thin films, agricultural films, sacks, and jumbo bags, can result in production at lower optimal temperatures without decreasing the production rate, resulting in higher quality in the final products.



Advantages

- Preventing melt fracture
- Decreasing processing pressure
- Increasing the extruder's output flow
- Improving processability
- Decreasing the agglomeration of materials in the mold
- Improving the uniformity at the extruder output.
- Facilitating operation and decreasing equipment depreciation
- Improving process efficiency

Applications



- Polymer films
- Drip irrigation pipes
- High-pressure polyethylene pipes
- Wire and cable manufacturing industries
- Sheet and profile manufacturing industries

UV Light Stabilizer Masterbatch

Ultraviolet rays can damage polymers. Exposure to UV rays can result in changes in physical, mechanical, and chemical properties of polymers including changes in polymer color, decreased mechanical properties, and decrease in tensile strength and impact strength. To prevent these adverse effects, the use of light stabilizers is unavoidable in certain industries.

Advantages

- Long-term stability against ultraviolet light
- Preventing the change in product colors
- Maintaining the physical and mechanical properties of the products



Applications

- Agricultural films,
- Packaging,
- Injection molding
- Pipes and fittings
- Polyethylene tanks
- Jambo bags
- Home appliances
- Automotive parts



Flame-retardant Masterbatch

The high flammability of polymer and rubber compounds is one of the major challenges for the application of these materials. Using a flame retardant (FR) masterbatch is suitable for various applications with a flammability risk and can help delay the onset of fire or prevent the formation of flame and fires in the products.

Selecting the correct type of flame retardants for each polymer and industry is of utmost importance.

Advantages

- Self-extinguishing characteristics and preventing the spreading of flames
- High effectiveness at low percentages



Applications

- Home appliances
- Electrical and Electronics
- Automotive parts
- Wire and cable

Antioxidant Masterbatch

The degradation of polymers can occur during various production steps and when exposed to damaging parameters. Oxidation is one of the main causes of this degradation and can be intensified due to factors such as exposure to sunlight, heat, mechanical stress, and the presence of metallic ions. Degradation of polymer ochre through thermal processes or oxidation by free radicals leads to the fracturing of polymer chains. These reactions can result in changes in molecular weight, molecular weight distribution, mechanical properties, and the appearance of polymers. To prevent the undesirable consequences of these processes, type one and two antioxidants or stabilizers are used.

Advantages

- Preventing the degradation of polymers and decrease in their properties at high temperatures
- Increasing the lifecycle of polymers
- Preventing the gel formation in products

Applications

- Films
- Pipes and fittings
- Sheets
- Polymer injection parts
- Rotational molding
- Blow molding



Antistatic Masterbatch

Electrical charges not only adsorb dust and particles but can also result in the adhesion of surfaces or films together. Antistatic agents (anti-static electricity) are used to decrease or remove the gathering of statistic electricity which often occurs as a result of friction. These agents act by creating a conductive surface through conductive antistatic agents or by adsorbing the humidity in the air. The molecules of antistatic agents often include two hydrophobes and hydrophile ends, with the hydrophobe end interacting with the polymer materials and the hydrophile end interacting with the air humidity.

Generally, ionic antistatic agents are not recommended for use with polyethylene due to their low thermal stability. Non-ionic antistatic agents are organic compounds containing two hydrophobes and hydrophile ends. The hydrophobe end immigrates to the surface of the polymer while the hydrophile end forms hydrogen bonds with water molecules in the air, creating a microscopic water layer on the surface which prevents the accumulation of static electricity charges on the surface and creates an antistatic property.



Advantages

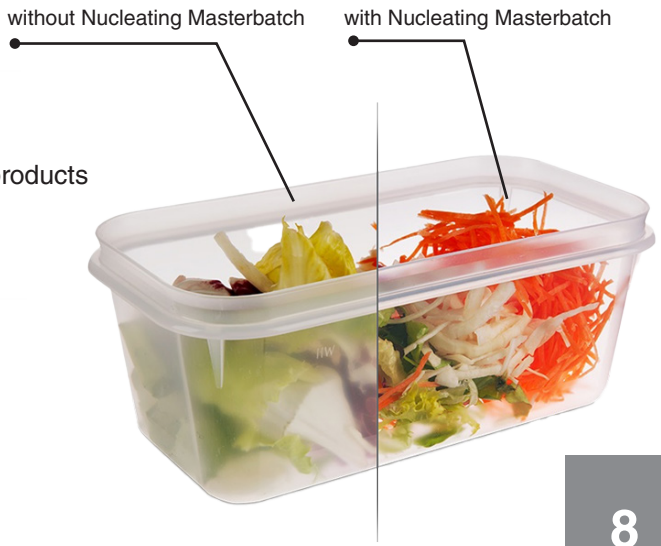
- Decreasing the accumulation of static electricity charges
- Acting as a lubricant during extrusion
- Facilitating the release of mold during injection molding
- Preventing the adsorption of dust and particles on the surface
- Preventing spark formation
- Improved printability of the products

Applications

- Films
- Sheets
- Disposable dishes
- Rotational molding products
- Electrical appliances
- Textile industries

Nucleating Masterbatch

Due to its unique characteristics, polypropylene is one of the most commonly used polymers in the industry. Due to the usually low crystallization rate of polypropylene, the ordered (crystallized) areas are formed in its structure. The outset of the crystallization process requires nucleation which often occurs at the structural defect sites. When the size of the crystals is larger than the wavelength of visible light, the light is not transmitted through the polymer, resulting in an opaque final polypropylene product. The physical, mechanical, and optical properties of polypropylene can be improved using suitable nucleating and clarifier agents. The addition of nucleating masterbatch increases the formation of crystals and their order while decreasing average crystal size. Therefore, visible light can be transmitted through the polymer products, resulting in a more transparent surface.



Advantages

- Decrease in crystal size
- Increase in transparency and light transmittance of final products
- Creating a smoother surface

Applications

- Polypropylene films and sheets
- Production of polypropylene films

Optical Brightener Masterbatch

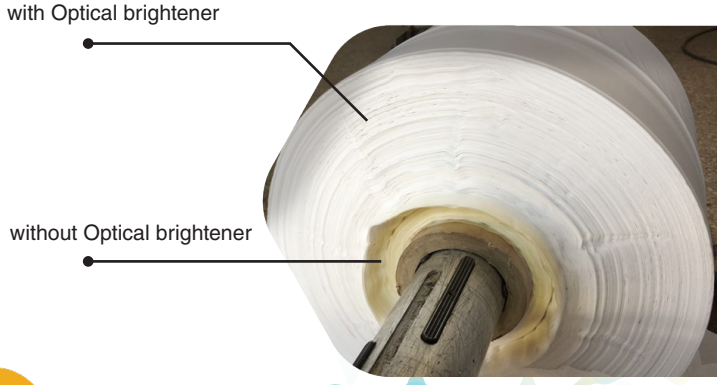
Optical brightener or fluorescent whitening agents are organic compounds that, when present in a product or on a surface, absorbed ultraviolet light and emit visible light. This added blue light to the white light reflected on the surface, increasing the white color while decreasing the yellow color of polymer parts or fibers.

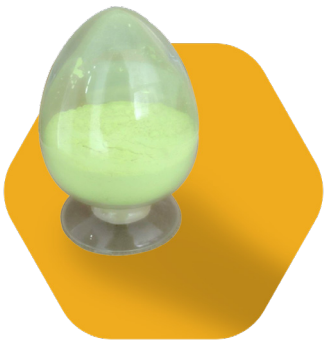
Advantages

- Improving the whiteness of recycled polymers

Applications

- Polymer films and sheets
- fibers





White Masterbatch

White masterbatch is one of the most commonly used in various industries. This white masterbatch provides lightness and coating for the final products. Various additives such as titanium dioxide, zinc oxide, and zinc sulfide can be used for creating these characteristics in polymers. However, due to the unique characteristics of titanium dioxide, the use of this material is more common in the polymer industry. The titanium dioxide content in white masterbatches varies between 10 to 75 percent which depends on the final products and the required coating. For example, masterbatches with titanium dioxide content of 60 percent or higher are used for single and multilayer films while masterbatches with titanium dioxide content of 40 to 50 percent are more suitable for different molding and extrusion processes.





Advantages

- Suitable coating
- Decreasing the damages caused by ultraviolet light
- Improving the apparent quality of the products



Applications

- Polymer film and sheet industry
- Injection molding
- Blow molding
- Rotational molding
- Extrusion
- Raffia
- Disposable dishes

Colored Masterbatch

Colored masterbatches are widely used for the production of colored polymer parts. A wide range of colored masterbatches with different colors can be prepared. Creating each color requires a specific pigment and the formulation and percentage of the final masterbatch vary based on the final color requirements. Selecting a pigment suitable for the base polymer and production processes is important for achieving suitable distribution of pigment in polymer structure and guaranteeing the final quality of the products.

Advantages

- Suitable coating
- The ability to color effectively at low percentages
- Using pigments with high light stability



Applications

- Polymer films and sheets
- Raffia
- Injection, rotational and blow molding
- Textile industries
- Automotive part
- Home appliances



Compound

In the polymer industry, a compound refers to a mixture of one or more base polymers and additives. Polymers used in different industries require different mechanical and thermal properties based on their final application. The compounds are, therefore, designed to achieve these characteristics.

Compounds Reinforced with Glass Fibers

Glass fibers have high mechanical strength, thermal and dimensional stability, heat resistance, and high chemical stability which can strengthen the physical and mechanical properties of polymer compounds. Compounds reinforced with glass fibers are often used in products with high mechanical strength. Polypropylene and polyamide are the most important polymers used as a base for these compounds.

Advantages

- High mechanical strength
- Suitable thermal and chemical resistance

Applications

- Home appliances
- Automotive parts
- Electrical appliances



Compounds with Mineral Fillers

Mineral fillers are additives used in the rubber industry which are generally added to the base polymer at the cost and improve some of the mechanical and thermal characteristics of the polymers. The most important mineral fillers include talc, calcium carbonate, mica, etc. Talc is an additive used in the polymer industry as an expander or filler. This additive has high tensile and creep strength. Calcium carbonate is used in a wide range of compounds and masterbatches as expanders and fillers. Furthermore, calcium carbonate reduces melt pressure and engine power, helps in conserving energy, and improves the physical and mechanical properties of the products.

Advantages

- Decreasing the cost of raw materials
- Improving the physical and mechanical properties

Applications

- Automotive parts
- Home appliances
- Electrical appliances
- Injection molding



Self-color and Transparent Colored Polymer Compounds

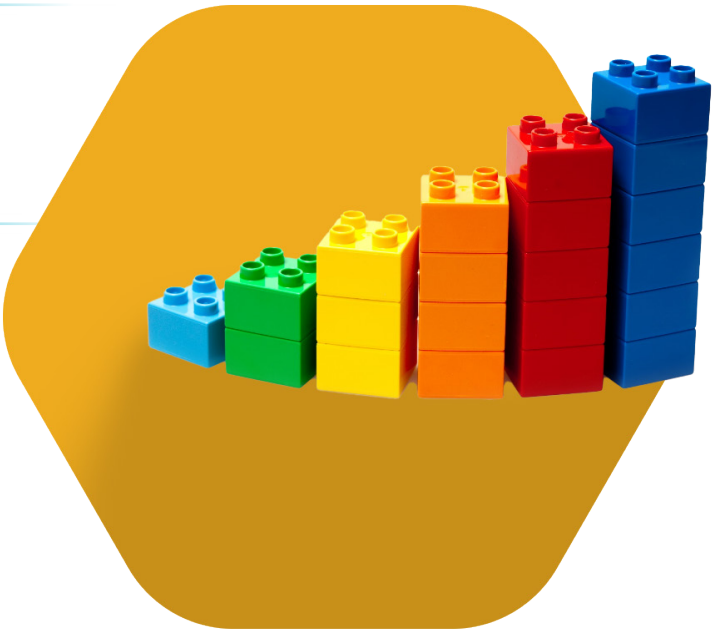
Self-dye compounds are granulated dyed base polymers with additives and pigments suitably distributed in their structure. The ever-increasing use of these compounds in rubber injection molding for the production of dyed polymer products has resulted in many compounds and masterbatch manufacturers attempting to manufacture these compounds. Baspar Chemi Sepidan Company, using its advanced color-checker equipment and access to skilled teams can produce dyed compounds with different polymer bases including polyethylene, polypropylene, ABS, and polyamide in all color shades.

Advantages

- Different color shades
- Production of transparent dyed compounds

Applications

- Home appliances
- Automotive parts
- Injection and rotational molding
- Polymer sheets



Flame Retardant Compounds

Flame retardant compounds are based on polypropylene and ABS and can be produced in various UL94 standard levels including V0, V1, and V2.



Advantages

- Increasing flame resistance of rubbers
- Decreasing the spread rate of flames

Applications

- Home appliances
- Electrical appliances
- Wires and cables
- Automotive parts

Engineering Compounds

Engineering compounds are manufactured based on engineering polymers including polyamide, SAN, PA, POM, PC, ABS, and PMMA. Baspar Chemi Sepidan Co. can manufacture various self-dye engineering compounds and those strengthened with glass fibers for use in various industries.

Advantages

- Improving the physical and mechanical properties
- Increasing heat resistance
- Optimizing the properties and price of polymers



Applications

- Automotive parts
- Home appliances
- Sheets and building panels
- Electricity industries



Engineering Alloys

Engineering allows are the physical mixture of two or more polymers which are created for creating a polymer product with optimal properties. Some of the most important allow manufactured by Baspar Chemi Sepidan Co. include PP-EPDM, ABD/SAN, PC/ABS, PA/ABS, and PP/PC engineering alloys.

Advantages

- Suitable price
- High performance
- Unique properties

Applications

- Automotive parts
- Home appliances
- Electricity industries



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