EXCEVAL™ is an FDA certified product and can be reduced dramatically. ELVANOL™ can be dissolved in the continuous cooking process designed for starch in which standard polyvinyl alcohol remains undissolved. This will be a significant benefit in paper coating applications, especially where polyvinyl alcohol is used together with starch to enhance performance. Another valuable advantage is to produce an embossed blending with fine particle materials like magnesium fillers. This characteristic provides a more uniform mold characteristic provides a more uniform mold formation of an excellent oil and grease barrier when coated on papers because of the excellent water resistance utilized in top coats in direct contact. The coatings made of EXCEVAL™ absorb significantly less humidity. Therefore EXCEVAL™ provides coatings with excellent gas barrier properties, e.g. toward oxygen, carbon dioxide, and water vapor. This results in reduced permeability even at elevated relative humidity. Furthermore, the resulting coatings are highly transparent and glossy, have a strong chemical resistance and provide good adhesion to non-polar as well as excellent printability.

One additional interesting characteristic is the formation of an excellent oil and grease barrier when coated on papers because of better film forming properties. EXCEVAL™ is an excellent gap filler between paper pulp and fiber which results in less permeability of liquids. EXCEVAL™ is an FDA-certified product and can be used in paper coating formulas and will be the best candidate of non-fluoro chemical barrier agents in the next generation of grease proof papers.

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The applications of polyvinyl alcohol are extremely wide-ranging. The main uses are in the paper, textile, construction and adhesive industries as well as cosmetics, packaging and electronics. Its chemical properties make polyvinyl alcohol very versatile. KURARAY POVAL™, EXCEVAL™ and ELVANOL™ are water soluble, have excellent film forming characteristics and high tensile strength.

In addition, the polymers are highly elastic and resistant to organic solvents. They also have dispersing power / surface activity to make emulsions and suspensions like surfactants. Reactivity of numerous hydroxyl groups with substances such as aldehydes and other reactive compounds expands the range even wider.

In the paper industry polyvinyl alcohol plays an important role as a carrier for optical brighteners. In the manufacture of bank notes its hard-wearing properties and its use as a creping adhesive contribute to high productivity of tissue paper. Polyvinyl alcohol is also well known as a binder of fine particle inorganic fillers like fumed silica in ink jet papers for high quality photo printing.

In adhesives, polyvinyl acetate and vinyl acetate – ethylene emulsions realize sufficient adhesive strength thanks to the stabilization by polyvinyl alcohol. As a component of remoistenable adhesives, e.g. for postage stamps, partially hydrolyzed grades ensure that the adhesive strength is not impaired even in fluctuating air humidity. In the production of high-strength industrial ceramics, polyvinyl alcohol acts as a temporary binder / green strength additive.

Their solvent resistance ensures the functionality of protective clothing. In the construction industry polyvinyl alcohol is used as a film forming agent in mortars and coatings. In the application of oil field-cement polyvinyl alcohol significantly reduces fluid loss which prevents defects in oil wells.