

## AKPEK 216

### Wet Strength Resin

Specifications	Value	Test Method
Appearance	Rose-pink/Yellow liquid	Visual
pH (directly)	3.1 - 3.6	pH meter
Viscosity (22°C)	50 - 110 cp	Viscometer

### PRODUCT DESCRIPTION

AKPEK 216 is a cationic polyamidamine - epichlorohydrin resin.

### FEATURES AND BENEFITS

- AKPEK 216 is a wet strength chemical used in paper production with its high activity and efficiency.
- Can be worked between pH = 4.0 - 10.0, but the most efficiency is taken between pH = 6.0 - 9.0.
- Used primarily to impart wet strength, it has several other important applications in papermaking such as retention, drainage, and flotation aid.
- The wet strength increased because of wet strength agents can react with chemical groups and form covalent bonds which enhance the strength of the fiber network.

### APPLICATION

- These resins are applied in various paper grades such as: Tissue, Packaging Papers (Liquid Packaging Board), Specialty Papers (bank note paper, filter paper, abrasive paper, label paper, decorative laminating paper, wall paper etc.).
- AKPEK 216 at 0.2 to 1.50% dry basis furnish levels is an effective wet-strength agent for paper grades where permanent wet strength is required.
- Optimum results are obtained by adding diluted AKPEK 216 to high-consistency stock.
- AKPEK 216 resin is frequently added at the fan pump of the paper machine. It may also be added to the thick stock, at the stuff box, or at the machine chest, for longer contact time with the stock.
- AKPEK 216 is most effective over a stock pH range of 4 - 9 with best performance at pH 6.5 to 8.5.
- Centrifugal pumps are usually used for handling of polyamide resin. All wetted parts of the pump should be made from Type 304 or Type 316 stainless steel. Gear, rotary, progressive cavity, diaphragm, piston and other positive displacement pumps can also be used. Piping may be plastic, plastic-lined mild steel, or Type 304 L or Type 316 L stainless steel.
- Wet strength resin is subject to hydrolysis under hot, alkaline conditions. If a high- attrition repulping device in good working order is available, the broke may be repulped satisfactorily by adding sodium hydroxide to Ph 11 and heating to 82 C during repulping. If repulping times under these conditions are excessively long, it may be necessary to use an oxidizing agent to break down the wet strength bonds. Sodium or calcium hypochlorite may be used ar 1.0 - 1.5 percent based on the fiber.

### PACKAGING, STORAGE & SHELF LIFE

Bulk, IBC.

It is recommended to be kept in closed container, under 30°C and consumed within 6 months from the date of production.



When the storage temperature rises above 25 °C, the shelf life decreases and the gelation rate increases. Shelf life above 30°C is approximately 25 days.

It is recommended to be stored under refrigeration for longer shelf life.

Glass-reinforced plastic tanks, which are suitable for the storage of acidic materials, may be used for the bulk storage of polyamide or polyamine resin. Type 304 L or 316 L stainless steel can also be used for bulk storage tanks if suitable welding rods and procedures to avoid preferential weld corrosion are used for fabrication.

**Note:** If the product has a freezing problem, let the product thaw on its own. When the product is frozen and thawed again, there is no performance loss in the product. To make the product reusable, do not use steam heating.

## SAFETY & PRECAUTIONS

Please refer to SDS before handling for safe use and regulatory information. You can contact your sales representatives to obtain SDS.

\*Safety, health, environmental and regulatory approvals FDA – Regulatory Compliance Service

AKPEK 216 conforms to requirements of the U.S. Food and Drug Administration for use in materials contacting foods as specified in the Code of Federal Regulations. Title 21, subject to the limitations and requirements of each regulation under the following section(s): 21CFR 176.170(components of paper and paper board in contact with aqueous and fatty foods) 21CFR 176.180(components of paper and paperboard in contact with dry food). The amount of dry resin is limited to 1.5% by weight in paper and paperboard.

\*BfR – Regulatory Compliance Status

AKPEK 216 has components suitable for use in the production of paper of paperboard intended to come into contact with food. AKPEK 216 matches the XXXVI, XXXVI/1 and XXXVI/2 Recommendations of the BfR. The dry resin retained is limited to 4 % by weight in paper and paperboard.

\*ISEGA- CERTIFICATE OF COMPLIANCE

Registered No: 53928 U 21 / 03 February 2021

The products AKPEK 21 according to sample material submitted may be used safely as wet strength agents in the manufacture of papers and boards for food packaging. They may be employed up to a concentration of 4%, related to dry fibres weight. The papers and boards manufactured with them may stand in direct contact with dry, moist and fatty foodstuffs , as far as the products mentioned above are concerned.

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