

# VINNAPAS<sup>®</sup> EP 1133



## Polymer Dispersions

VINNAPAS<sup>®</sup> EP 1133 is a carboxylated, higher solids vinyl acetate-ethylene (VAE) copolymer dispersion with a glass transition temperature ( $T_g$ ) of 0°C. It is a moderately soft binder that performs well for many nonwovens and offers excellent adhesion to various fiber substrates. It also has the ability to be crosslinked.

## Properties

- VINNAPAS<sup>®</sup> EP 1133 is a unique dispersion combining high solids with carboxyl functionality.
- The carboxylation provides crosslinking sites and causes the dispersion to thicken in the presence of alkalis.
- This dispersion exhibits high wet tack and excellent mechanical stability.
- It has lower plasticizer and solvent thickening response than conventional poly(vinyl alcohol) stabilized dispersions.
- The dried film exhibits excellent flexibility. The film exhibits slight dry tack, is heat sealable, and can be dissolved with water at a pH of approximately 9.5.
- VINNAPAS<sup>®</sup> EP 1133 is produced without the use of any surfactants or defoamers that contain alkylphenol ethoxylates (APEOs).

## Technical data

### Specification

Property	Condition	Value	Method
Solids content	-	62.0 - 64.0 %	specific method
Viscosity, dynamic	25 °C	600 - 1500 mPa-s	specific method
pH	-	4.3 - 5.3	specific method
Grit 100 Mesh	-	max. 50 ppm	specific method

### General Characteristics

Property	Condition	Value	Method
Density	20 °C	1.06 g/cm <sup>3</sup>	specific method
Frost resistance	-	protect from freezing	specific method
Glass transition temperature	-	approx. 0 °C	DSC, specific method
Dry tack	-	slight tack	specific method
Film clarity	-	clear	specific method
Flexibility	-	excellent	specific method
Mechanical stability	-	excellent	specific method
Thickening response	-	low	specific method
Water resistance	-	very good	specific method
Wet tack	-	high	specific method

These figures are only intended as a guide and should not be used in preparing specifications.

All the information provided is in accordance with the present state of our knowledge. Nonetheless, we disclaim any warranty or liability whatsoever and reserve the right, at any time, to effect technical alterations. The information provided, as well as the product's fitness for an intended application, should be checked by the buyer in preliminary trials. Contractual terms and conditions always take precedence. This disclaimer of warranty and liability also applies particularly in foreign countries with respect to third parties' rights.

## Applications

- Dry Wipes & Industrial Wipes

## Application details

VINNAPAS® EP 1133 is an excellent base for nonwoven formulators and can be used in a wide variety of applications. The ethylene in the polymer acts as an internal plasticizer which provides flexibility and reduces or eliminates the need for post added plasticizer. VINNAPAS® EP 1133 can be applied by a number of different application methods including saturation, spraying, foaming and print bonding. VINNAPAS® EP 1133 performs well on various fiber types including cellulose, rayon, fiberglass, and polyester based substrates. This dispersion is especially suited for use in absorbent products and pre-moistened wipes.

### Processing

VINNAPAS® EP 1133 may be formulated to maximize performance. VINNAPAS® EP 1133 is carboxylated and can be reacted with chemicals that react with carboxyl groups. These materials can be formulated in at low levels to maximize tensile performance. Surfactants can also be added to VINNAPAS® EP 1133 to improve penetration of the binder into the substrate and improve absorbency of the finished product. Effective surfactant levels are 0.5 to 1.0% on dispersion solids. The dispersion will accept high loadings of clay, calcium carbonate, and other fillers. This dispersion can be compounded with fully hydrolyzed poly(vinyl alcohol) solutions to provide highly water-resistant films. Heat resistance can be enhanced with additional poly(vinyl alcohol). Water and heat resistance can also be improved with crosslinking through the carboxyl functionality. Finally, to increase the viscosity, various alkalies or compatible water-soluble polymers can be used. The alkali method is effective only to a pH of 6.5. If nonvolatile alkalies are used, adhesion may decrease because of their reaction with carboxyl groups.

### Additional information

If the product is used in applications other than those mentioned, the choice, processing and use of the product is the sole responsibility of the purchaser. All legal and other regulations must be complied with.

For questions concerning food contact status according the chapter 21 CFR (US FDA) and German BfR, please feel free to contact us.

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## Packaging and storage

### Storage

When the dispersion is stored in tanks, proper storage conditions must be maintained. If stored in the original, unopened containers at cool (below 30 °C), but frost-free temperatures the product has a shelf life of 9 months from the date of manufacture. Any longer periods for the maximum storage period that may be described in the Certificate of Analysis which accompanies each shipment of the product, take preference over this suggestion in which case the time period stated in the Certificate of Analysis shall be solely authoritative. Iron or galvanized-iron equipment and containers are not recommended because the dispersion is slightly acidic. Corrosion may result in discoloration of the dispersion or its blends when further processed. Therefore, the use of containers and equipment made of ceramics, rubberized or enameled materials, appropriately finished stainless steel, or plastic (e.g. rigid PVC, polyethylene or polyester resin) is recommended. As polymer dispersions may tend to superficial film formation, skins or lumps may form during storage or transportation. Filtration is therefore recommended prior to utilization of the product.

### Preservation for Transport, Storage and further Processing

The product is adequately preserved during transportation and storage if kept in the original, unopened containers. However, if it is transferred to storage tanks, the dispersion should be protected against microbial attack by adding a suitable preservative package. To maintain proper storage conditions appropriate measures should also be taken to ensure cleanliness of the tanks and pipes. In a storage tank in which the product is not stirred, it is advisable to contact your biocide representative/supplier. Proper procedures must be set up in order to prevent microbial attack between necessary periodic tank cleaning and sanitization. These procedures will vary, since loading and unloading practices in each storage situation will differ slightly. Finished products manufactured from polymer dispersions usually also require preservation. The type and scope of preservation will depend on the raw materials used and the anticipated sources of contamination. The compatibility with other components and the efficacy of the preservative should always be tested in the respective formulation. Preservative manufacturers will be able to advise you about the type and dosage of preservative required.

## Safety notes

Comprehensive instructions are given in the corresponding Material Safety Data Sheets. These are available on request from WACKER sales offices or may be downloaded from the WACKER Web site [www.wacker.com/vinnapas](http://www.wacker.com/vinnapas).

## QR Code VINNAPAS® EP 1133



### For technical, quality or product safety questions, please contact:

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