

# Adhesives

## Technical Data Sheet

# Acronal<sup>®</sup> LA 449 S



**Aqueous polymer dispersion for the manufacture of pressure sensitive adhesives for self-adhesive articles**

### *Chemical Nature*

**Aqueous dispersion of an acrylate copolymer with carboxylic groups that can be cross-linked by heating**

### **Properties**

#### *Typical Properties*

Solids content	%	~ 49.5
pH value		~ 3.4
Apparent viscosity at 23 °C (Brookfield RVT, Spindle #2, 100 rpm)	mPa s	20 –100

#### *Other properties of the dispersion*

Density	g/cm <sup>3</sup>	approx. 1.06
Average particle size	µm	approx. 0.5
Film-forming temperature	°C	< 1 min.
Frost resistance		sensitive to frost
Dispersion type		anionic

#### *Properties of the film*

Density	g/cm <sup>3</sup>	approx. 1.0
Glass transition temperature T <sub>g</sub> (DSC)	°C	approx. – 7
Water absorption (After immersion for 24 hrs)	%	approx. 16
Mechanical strength*		
Tensile strength	N/mm	2 2.7
Elongation at break	%	approx. 1100
Appearance		clear, transparent
Stability to light		good
Surface slightly		tacky

\* These typical values should not be interpreted as specifications.

## **Compatible with**

<i>Polymer dispersions</i>	Anionic dispersions and those containing protective colloids
<i>Thickeners</i>	Collacral® VAL
<i>Resins</i>	Modified natural resins; these can be added as solutions or dispersions.  The pH value must be adjusted to approx. 7 before adding resins.

\* These typical values should not be interpreted as specifications.

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## **Applications**

### **Features**

Acronal® LA 449 S is used in the manufacture of pressure-sensitive adhesives for self-adhesive products. The adhesives adhere well to electrically treated polyolefin films and are used mainly for products with weak adhesion, e. g. protective films. As a rule, such products can be peeled off many different types of surface cleanly without ghosting. To enable this, comprehensive trials to establish their suitability are essential.

### **Processing**

Adhesives based on Acronal® LA 449 S can be applied with the usual coating systems.

It is recommended to raise the pH of Acronal® LA 449 S to 6.0 – 7.5 with ammonia solution before mixing it with other dispersions, to improve stability and compatibility. In the event of poor wetting, it is often helpful to add about 0.5 % of a wetting agent such as Lumiten® I-SC.

Commercially available antifoams such as Lumiten® E-L are suitable for suppressing foam. The exact amount of antifoam required must be determined in trials, though usually 0.05 – 0.2 % in the formulation is sufficient.

We recommend adding a preservative to adhesives that contain Acronal® LA 449 S to protect them from microbial attack. The suitability of such additives must be verified and monitored in trials.

Manufacturers must carry out their own comprehensive trials for developing pressure-sensitive adhesives based on Acronal® LA 449 S as, in manufacture and use, a host of factors come into play such as the compatibility of their components, the nature of different plastic films and the type of substrate onto which they are to be applied that we cannot cover exhaustively in our trials. When formulating adhesives for re-peelable films, particular attention is to be paid to the clean and easy detachment even after a long time of adhesion for all substrates that come in question.

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## **Safety**

### **General**

The usual safety precautions when handling chemicals must be observed. These include the measures described in Federal, State and Local health and safety regulations, thorough ventilation of the workplace, good skin care and wearing of protective goggles.

### **Material Safety Data Sheet**

All safety information is provided in the Material Safety Data Sheet Acronal® LA 449 S.

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## **Storage**

Acronal® LA 449 S has a shelf life of six months from delivery date, provided it is stored in accordance with the "Handling and Storage of polymer dispersions" brochure. Technical information regarding the storage of BASF polymer dispersion products is available upon request.

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