

07590 Acryldispersion 500 D

Acryldispersion 500 D may be used as the raw material for glues, to impregnate paper, as binder for fibrous and coarse material, as well as coating material for textile substrates.

Acryldispersion 500 D is an aqueous, unplasticized anionic dispersion, of an acrylic-acid-ester-copolymer containing carboxyl groups.

Product specifications:

Solids content (ISO 1625; DIN 53 189):	± 50 %
Viscosity at 23°C (ISO 3219; DIN 53019):	15 - 35 mPa.s
Shear rate:	250 s
Viscosity after addition of ammonia:	5.5 - 11 Pa.s
pH (ISO 1148; DIN 54785):	-

Other properties of the dispersion:

Density (ISO 8962; DIN 53217):	approx. 1.06 g/cm ³
Average particle size:	approx. 0.2 µm
Minimum film-forming temperature (ISO 2115; DIN 53787):	< 1°C
Type of dispersion:	anionic
Plasticizier content:	nil
Diluent tolerance with water:	good
Frost resistance:	nil

Compatibility

Thickeners:

Water-soluble cellulose derivatives. Pronounced thickening can also be achieved by adding concentrated ammonia. The pH-value after thickening should be maintained at 9 - 9.5 in order to ensure that the viscosity remains constant over a long period.

Resins:

The compatibility with resins, which are mostly added in the form of solutions, should always be checked. For instance, slight coagulation occurs if resin is added to the dispersion, but no coagulation can be detected if hydrogenated resin esters are added.

Drying Oils:

If the pH is higher than 8, mixtures of Acryldispersion 500 D and drying oils remain stable, but demixing occurs if the pH is less than 7.

Properties of the Film:

Density (ISO 1183, DIN 53479):	approx. 1.11 g/cm ³
Glass transition temperature T _g (DSC):	approx. -13°C
Water absorption after 24 hrs.:	approx. 70 %
Immersion (ISO 62; DIN 53495):	
Mechanical strength	
Tensile strength at break:	approx. 1.5 N/mm ²
Ultimate elongation:	approx. 2500 %
Appearance:	clear and transparent
Surface:	slightly tacky
Flexibility:	very flexible
Resistance to aging:	good
Stability to light:	good

Application:

Fields of Application

Acryldispersion 500 D is used in the manufacture of adhesives for bonding PVC film to absorbent substrates, e.g. wood, paper and board, etc. Together with Acronal® 14 D, it allows the production of adhesives for laminating high-gloss film and textiles. Acryldispersion 500 D coatings are largely resistant to plasticizer migration. Their softness is an advantage in the production of flock-coating adhesives. Another field of application is the production of dispersion-based pressure-sensitive adhesives for plasticized PVC film for laminating and adhesive tapes.

Acryldispersion 500 D is also a component in binders for cork dust, leather fibres, nonwovens, etc. and for coating and laminating textiles that need not be resistant to dry cleaning.

Processing:

If Acryldispersion 500 D is mixed with other dispersions, particularly natural rubber latex, the pH should lie in the slightly alkaline range. In this case, the pH should be brought to a value of 8 - 8.5 with ammonia, and the Acryldispersion 500 D should be stirred into the latex in a thin stream. If the latex is stirred into the Acryldispersion 500 D, the mixture may coagulate.

The polymer in Acryldispersion 500 D can be cross-linked by adding zinc oxide or reactive urea or melamine resins. Cross-linkage by heat alone is not possible.

Any difficulties that may arise in wetting can often be remedied by adding about 0.5 % of a wetting agent. Addition rates of 0.05 - 0.2 %, expressed in terms of the made-up adhesive of a normal defoamer.

We recommend that preservatives be added to Acryldispersion 500 D adhesives to protect them from attack by microorganisms. Their suitability should be checked and controlled by experiment.

Manufacturers must carefully perform their own trials in developing products from Acryldispersion 500 D, because experiments on our part cannot embrace the great variety of factors that may exert an influence on the compatibility with other components of a formulation, the interaction between the bonded or coated materials, the shelf life, etc.

Safety:

General Information:

The normal precautions relating to handling chemicals and local regulations on industrial hygiene must be observed. The place of work must be well ventilated, skin care measures should be adopted, and safety goggles should be worn.

Airborne concentration:

The values and other data for n-butyl acrylate and vinyl acetate laid down in the latest TLV list and German MAK must be adhered to when Acryldispersion 500 D is being processed.

Labelling:

According to the data at our disposal, Acryldispersion 500 D is not a hazardous product in the sense of the German Health and Safety Regulations or the EEC Guideline on Classification and Labelling.

It does not contain any hazardous components in levels that the processor must take into consideration in labelling.

Industrial Hygiene:

According to the experience that we have gained over many years and other information at our disposal, Acryldispersion 500 D does not exert any harmful effects on health, provided that it is used for the purpose for which it is intended and the principles of sound manufacturing practice and adhered to.

Food legislation:

The composition of Acryldispersion 500 D conforms to the Federal German Health Authority's recommendation on plastics dispersion for food-contact application.

Provided that the principles of sound manufacturing practice have been observed, there are no objections to the use of Acryldispersion 500 D in food-contact applicaitons as defined in para. 5.1.1 of the Lebensmittel- und Bedarfsgegenständegesetz or for the manufacture of toys as defined in para. 5.1.5 of the same act. The suitability of the articles concerned for food-contact applications should be checked in individual cases by the converter or packer.

Storage Conditions:

If Acryldispersion 500 D is kept at 10 - 30°C in tightly closed containers, its shelf life is about 12 months. The air space in storage tanks must always be kept saturated with water vapor.

Acryldispersion 500 D must not be allowed to come in contact with unprotected iron or nonferrous metals during storage and processing.

Other Information:

This information, which describes our product with regard to possible safety requirements, is based on the present state of our knowledge and experience. It is given in good faith but no warranty expressed or implied with respect to the quality and properties of our product is made.