

# EBECRYL® 4491

*Unsaturated Aliphatic urethane acrylate*

## INTRODUCTION

Ebecryl®4491 is an unsaturated aliphatic urethane acrylate recommended in formulations of ultraviolet (UV) and electron beam (EB) curable coatings. The form supplied is 80% in isobornyl methacrylate.

## PERFORMANCE DATA

Coatings based on Ebecryl®4491 are characterized by their very high flexibility and elongation at break. The UV-cured paint films display rubber-elastic properties.

## SUGGESTED APPLICATIONS

Ebecryl®4491 is used to formulate highly flexible radiation-curable (UV and EB) coatings for application by roller coating, spraying, curtain coating and printing on wood, cork, furniture, paper, parquet, plastics, glass and films. Ebecryl®4491 can also be used to formulate temporary (strip) coatings.

## SPECIFICATIONS

Viscosity at 23°C, mPa.s	approx. 90000
Hazen color value	approx. 100

## TYPICAL PROPERTIES

Density at 20°C, g/cm <sup>3</sup>	approx. 1.13
Acid number, mg KOH/g	approx. 2
Hydroxyl content, %	approx. 0.1
Flash point, °C	approx. 97
Tensile strength, N/mm <sup>2</sup>	> 5
Elongation at break, %	> 250

## SUGGESTED FORMULATIONS

Depending on the application, the coatings can be adjusted to application viscosity using standard reactive thinners (mono-, di-, tri-, tetra-acrylic acid esters) or solvents such as butyl acetate. The reactive thinner must be selected carefully as it may impact considerably on the properties and storage stability of the coating. If a reactive thinner is to be used, preference should be given to monomethacrylates such as isobornyl methacrylate as these do not excessively influence the elongation at break of the binder. On account of the many potential combinations with reactive thinners and solvents, the compatibility must be tested in each individual case. The binder may be heated (max. 60°C) for application. It is possible to combine Ebecryl®4491 with selected other Desmolux® binders.

The UV curing of coatings based on Ebecryl®4491 requires the use of standard commercial photoinitiators. The addition is up to 5% or in concentrations that satisfy the reactivity requirements of the application. In the case of electron beam curing, good passivation is essential to avoid the risk of surface cure inhibition.

Mat coatings can be formulated using standard matting agents. Special attention should be paid to the storage stability as the formation of sediment may result in premature gelling of the coating.

## STORAGE AND HANDLING

- Storage in original sealed Allnex containers.
- Recommended storage temperature: + 5 to + 35°C
- Protect from intense radiation (light, UV), heat and foreign material.

At low temperatures or on prolonged storage the product tends to phase-separate IBOMA. This separation is reversible by stirring and heating slightly (max. 60°C)

Allnex guarantees that for a period of 24 months following the day of manufacturing, the product will meet the specifications or values set forth in section "Specifications" or "Typical properties" above, whatever is applicable, provided that the product is stored in full compliance with the storage conditions set forth in and referenced under section "storage" above and is otherwise handled appropriately.

The lapse of the 24 months period does not necessarily mean that the product no longer meets specifications or the set values. However, prior to using said product, Allnex recommend to test such a product if it still meets the specifications or the set values. Allnex does not make any guarantee regarding the product after the lapse of the 24 months period and Allnex shall not be responsible or liable in any way for the product

failing to meet specifications or the set values after the lapse of the 24 months period.

## STATUTORY LABELLING

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For Statutory Labelling information, please refer to the Safety Data Sheet.

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