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# Luhydran® A grades

# Luhydran® N 850 S

aqueous, self-crosslinking polymer dispersions for the  
formulation of coatings for furniture, parquet floors and interior  
fittings made from wood, plastics, wood products or fiber  
products

## Range

|                   |  |
|-------------------|--|
| Luhydran® A 848 S | aqueous dispersion of a copolymer<br>based on butyl methacrylate                   |
| Luhydran® A 875 S | aqueous dispersion of a copolymer<br>based on esters of methacrylic acid           |
| Luhydran® N 850 S | aqueous dispersion of dispersion of an<br>n-butyl acrylate/acrylonitrile copolymer |

## Properties

### Physical form

liquid

### Shelf life

Luhydran® grades should not come into contact with metals or alloys that are sensitive to corrosion. Containers should be tightly sealed, the air-space in storage tanks should always be saturated with water vapor. Exposure to strong heat or frost should be avoided.

With adequate storage and tank hygiene measures observed and at temperatures between 10 and 30 °C (50 and 86 °F), Luhydran® dispersions can be stored for 12 months from the date of delivery.

The dispersions have been sufficiently preserved for transport. However, to avoid attack by microorganisms during storage, a biocide should be added and suitable tank hygiene measures be adopted.

Formulations must be tested at 50 °C (122 °F) for the viscosity to remain stable.

**Supply specifications**

|                   |   |           |                 |
|-------------------|---|-----------|-----------------|
| Luhysran® A 848 S | solids content (DIN ISO 1625)                   | 43.5–45.5 | %               |
|                   | viscosity at 23 °C (73 °F)<br>(DIN EN ISO 3219) | 150–250   | mPa · s         |
|                   | shear rate D                                    | 250       | s <sup>-1</sup> |
|                   | pH value (DIN ISO 976)                          | 6.5–7.5   |                 |
| Luhysran® A 875 S | solids content (DIN ISO 1625)                   | 43.0–46.0 | %               |
|                   | viscosity at 23 °C (73 °F)<br>(DIN EN ISO 3219) | 20–100    | mPa · s         |
|                   | shear rate D                                    | 250       | s <sup>-1</sup> |
|                   | pH value (DIN ISO 976)                          | 6.5–7.5   |                 |
| Luhysran® N 850 S | solids content (DIN ISO 1625)                   | 40.0–42.0 | %               |
|                   | viscosity at 23 °C (73 °F)<br>(DIN EN ISO 3219) | 10–50     | mPa · s         |
|                   | shear rate D                                    | 250       | s <sup>-1</sup> |
|                   | pH value (DIN ISO 976)                          | 7.0–8.0   |                 |

**Other properties**

|                   |   |                    |      |                   |
|-------------------|---|--------------------|------|-------------------|
| Luhysran® A 848 S | density at 20 °C (68 °F)<br>(ISO 8962, DIN 53217, part 2) | ~                  | 1.05 | g/cm <sup>3</sup> |
|                   | particle size (Ø)   | ~                  | 0.07 | µm                |
|                   | minimum film-forming temperature<br>(DIN ISO 2115)        | ~                  | 39   | °C                |
|                   |   | ~                  | 102  | °F                |
|                   | sensitivity to frost                                      | <                  | 0    | °C                |
|                   |   | <                  | 32   | °F                |
| Luhysran® A 875 S | density at 20 °C (68 °F)<br>(ISO 8962, DIN 53217, part 2) | ~                  | 1.04 | g/cm <sup>3</sup> |
|                   | particle size (Ø)   | ~                  | 0.12 | µm                |
|                   | minimum film-forming temperature<br>(DIN ISO 2115)        | ~                  | 60   | °C                |
|                   |   | ~                  | 140  | °F                |
|                   | sensitivity to frost                                      | <                  | 0    | °C                |
|                   |   | <                  | 32   | °F                |
| Luhysran® N 850 S | density at 20 °C (68 °F)<br>(ISO 8962, DIN 53217, part 2) | ~                  | 1.03 | g/cm <sup>3</sup> |
|                   | particle size (Ø)   | ~                  | 0.09 | µm                |
|                   | minimum film-forming temperature<br>(DIN ISO 2115)        | ~                  | 25   | °C                |
|                   |   | ~                  | 77   | °F                |
|                   | sensitivity to frost                                      | <                  | 0    | °C                |
|                   |   | <                  | 32   | °F                |
|                   | type of dispersion  | anionic            |      |                   |
|                   | appearance  | milky white        |      |                   |
|                   | type of dispersion  | anionic            |      |                   |
|                   | appearance  | slightly yellowish |      |                   |

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## Application

### Luhdran® A 848 S

Luhdran® A 848 S is a low-viscous, self-crosslinking fine dispersion containing anionic auxiliaries. It forms clear, hard films with very good resistance to household chemicals, excellent resistance to water and good cold-check resistance.

Luhdran® A 848 S serves primarily as a binder for matte emulsion finishes (both clear and pigmented) for wooden furniture and interior fittings as well as for plastics and fiber-cement board. It can be combined with a suitable polyurethane dispersion to make abrasion-resistant finishes for parquet floors.

### Luhdran® A 875 S

Luhdran® A 875 S is a low-viscous, self-crosslinking fine dispersion containing anionic auxiliaries. It forms clear, hard films with very good resistance to household chemicals and plasticizing substances.

Luhdran® A 875 S can be used for both industrial and trade applications, depending on the type of coalescent used. Even though the polymer film is hard, with good sandability and blocking resistance, it is still flexible enough to offer good cold-check resistance. Parquet-floor finishes can be made by adding a polyurethane dispersion to the formulation, which reduces the amount of coalescent required and improves abrasion resistance.

### Luhdran® N 850 S

Luhdran® N 850 S is a low-viscous fine dispersion. After water and solvents have evaporated, it crosslinks with the help of a non-saponifiable crosslinker contained in the dispersion. At room temperature, films are tough and tack-free.

Luhdran® N 850 S primarily is used for industrial coatings on wood and mineral-based materials. Coatings are hard, block-resistant and well resistant against household chemicals. The acrylonitrile component of the polymer provides good resistance to alcohol and plasticizing substances. Furniture and parquet varnishes can be formulated with Luhdran® N 850 S as a sole binder. Parquet varnish films are tough and show good resistance to abrasion, which can be reduced even further by adding a polyurethane dispersion.

## Processing

In order to prevent precipitation or sedimentation, additives such as thickeners, preservatives, coalescents or defoamers should be predispersed in water using a wetting agent. Matting agents, pigments and extenders can also be incorporated into such a "masterbatch".

Film formation at room temperature can be achieved by adding film-forming agents such as butyl glycol or butyl diglycol. Sample addition rates for Luhdran® A 875 S:

| addition rate                  | 2.5 %          | 5.0 %          | 7.5 %         |
|--------------------------------|----------------|----------------|---------------|
| butyl diglycol                 | 33 °C<br>91 °F | 18 °C<br>64 °F | 3 °C<br>37 °F |
| dipropyleneglycol n-butylether | 36 °C<br>97 °F | 16 °C<br>61 °F | 1 °C<br>34 °F |

Thickeners like Collacral® PU 75, Collacral® PU 85 or Schwego®<sup>1</sup> Pur 8020 inhibit serum formation as well as settling of matting agents and control the viscosity.

Coatings can be colored with stir-in pigments such as Xfast® or aqueous pigment preparations such as Luconyl®.

Luhdran® dispersions, like other fine dispersions, tend to foam. A commercial defoamer should be added in proportions of 0.3–1.0 %, its suitability and long-term effectiveness should be tested.

Although the Luhdran® dispersions have been protected against attack by microorganisms, preservatives must be added to the formulations to ensure good storage stability during extended storage. The compatibility and effectiveness of such preservatives should be determined in trials.

The suitability of wood and furniture coatings formulated with Luhdran® A 484 S should be tested in particular for applications subject to intensive contact with grease (including dermal grease), plasticizers and creams (e.g., hand creams).

## Safety

When handling these products, advice and information given in the safety data sheet must be complied with. Further, protective and workplace hygiene measures adequate for handling chemicals must be observed.

<sup>1</sup> registered trademark of Bernd Schwegmann GmbH & Co. KG

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## Note

The data contained in this publication are based on our current knowledge and experience. In view of the many factors that may affect processing and application of our product, these data do not relieve processors from carrying out their own investigations and tests; neither do these data imply any guarantee of certain properties, nor the suitability of the product for a specific purpose. Any descriptions, drawings, photographs, data, proportions, weights, etc. given herein may change without prior information and do not constitute the agreed contractual quality of the product. It is the responsibility of the recipient of our products to ensure that any proprietary rights and existing laws and legislation are observed.

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