

LAVIOSA ARGIMEL® S4

Rheological additive for low to medium polarity solvent-borne systems

General Information

LAVIOSA ARGIMEL® S4 is a rheological additive for solvent-borne systems of low to medium polarity that gives thixotropic effect, sag control, excellent levelling and prevents pigments from long-term storage settling.

The nature of **LAVIOSA ARGIMEL® S4** is an activated bentonite clay, organically modified with a quaternary alkylammonium compound.

Table 1 Chemical-physical properties.

| Properties | Description |
|-------------------------------------|-------------------------------|
| Composition | organically modified smectite |
| Physical form | white pale cream powder |
| Bulk density | 0,4-0,6 g/mL |
| Specific gravity (H ₂ O) | 1,7-1,8 |
| Moisture | ≤ 3% |

Applications

LAVIOSA ARGIMEL® S4 is used in a wide range of manufacturing processes:

- Oil based paints (either industrial or architectural)
- Marking paints
- Road marking paints
- Printing inks
- Lubricating greases

- Adhesives
- Cosmetics and personal care products

LAVIOSA ARGIMEL® S4 shows particularly good performance in solvents like aliphatic mineral spirits and aromatics.

Incorporation

LAVIOSA ARGIMEL® S4 requires high shear forces applied and a chemical (polar) activator, to reach the proper level of delamination of the organo-bentonite platelets. While heat is not essential in most cases, processing temperatures above 20 °C are preferred. Suitable polar activators are low molecular weight species.

Table 2 Activators' dosage (based on Laviosa ARGIMEL® weight).

| Polar activator | % |
|---|----|
| Acetone/H ₂ O (95:5) | 60 |
| Methanol/H ₂ O (95:5) | 33 |
| Ethanol/H ₂ O (95:5) | 50 |
| Propylene Carbonate | 33 |
| Propylene Carbonate/H ₂ O (95:5) | 33 |

It is always recommended to empirically determine the proper level of addition with, because either defect or excess of chemical activator would result in a non-optimal rheology development.





Several methods can be used to incorporate **LAVIOSA ARGIMEL® S4**:

1. “Direct addition” technique.
LAVIOSA ARGIMEL® S4 powder is added directly to the solvent/resin mix before pigment addition and milling. It is advisable to allow the organoclay to wet and disperse at first and to add the polar activator before or after the pigments. Surfactants must be added at last.
2. “Pre-gel” technique.
LAVIOSA ARGIMEL® S4 is added as described above in a suitable solvent at a 5-10% concentration, together with a polar activator. The so activated gel is then added to the binder solution and stirred. After pigment addition, the mix is finally milled. Higher activated pre-gel concentrations (15-20%) can be obtained with the aid of suitable dispersing agents, to be added after full organoclay dispersion.

Dosage

Dosage strongly depends on the system and on the degree of thickening required. In paints and industrial finishes, typical levels are between 0,2% and 0,6% of **LAVIOSA ARGIMEL® S4**.

For primers and printing inks, higher levels are required (0,5-1,0%). To reach strong anti-sagging properties, up to 3,0% can be used.

Storage stability and packing

Product does not deteriorate significantly in 3 years. **LAVIOSA ARGIMEL® S4** should be stored in a dry, sheltered place in original closed bags.

Packing is available in 25 kg net paper bags.

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