OSAKRYL® OSA-1M

Water dispersion of
styrene-acrylic copolymer

Technical Data Sheet
Date of edition: 25/01/2012
Edition no.: 3
Approved by: Product Manager – Dominika Słotwińska

Previous editions of this document have lost their validity

CHARACTERISTICS

Osakryl® OSA-1M is a water dispersion of styrene-acrylic copolymer produced in the presence of emulsifying system composed of ionic and non-ionic surface active agents. Product is designed for the formulation of primers, decorative - protective paints for interior and exterior use, plasters and also silicate and silicone systems.

GENERAL PROPERTIES

- APEO free
- free of solvents

In coatings exhibit very good adhesion to various porous materials, especially cement, cement-limestone, etc. porous substrates, very good wet scrubbing resistance and good alkali resistance.

BASIC PARAMETERS

Parameters	Units	Values	Test methods
pH	-	7,0÷9,0	PN-EN 1245
solids content	%	49±1	PN-EN 827
viscosity by Brookfield RVT[1)]	mPa·s	2000÷5000	PN-ISO 2555
MFFT (minimal film forming temperature)	°C	11÷13	PN-90/C-89415
Tg (glass transition)	°C	17÷19	differential scanning calorimetry (DSC)
mean particie size	nm	100÷140	photon correlation spectroscopy (PCS)

[1)] rotors per minute: 20; rotor nr 4; temperature: 23ºC; after 5 minutes

APPLICATON

After evaporation of water in the temperature above 12°C Osakryl® OSA-1M forms a transparent film. Product is well dilutable with water and well miscible with inorganic fillers and pigments. In our experience Osakryl® OSA-1M can be used with all available raw materials designed for water-based products formulation. However we present below some information that may be helpful during formulating ready products.

Dispersing agents

According to our test results the best stability and good mechanical parameters show products based on Osakryl® OSA-1M with 0,1-0,2% by weight of Polifos as a wetting agent and 0,3-0,5% by weight of following dispersing agents: Dispex N 40, Metolat 514, Disperbyk 192, Dispersene P-80.

Defoamers

The best defoaming effect in high-filled systems based on Osakryl® OSA-1M can be achieved with 0,2% by weight of BYK 037. In primers and low-filled systems addition of 0,2% by weight of Agitan 100 or Agitan 120 is recommended. For surface defects prevention such as cratering problem 0,05-0,1% by weight of BYK 024 can be used.

Rheology modifiers and thickeners

Osakryl® OSA-1M can be used with all available cellulosic thickeners designed for waterbased products formulation. The best results can be obtained in formulations based on Osakryl® OSA-1M and Bermocoll, Tylose or Natrosol. The addition of xanthan gum e.g. Agocel V 500D (Agocel V 600 for silicate systems) and guar gum e.g. Agocel I 110D or

Synthos Dwory 7 spółka z ograniczoną odpowiedzialnością S.K.A.
(dawniej „Synthos Dwory" Sp. z o.o.)
ul. Chemików 1, 32-600 Oświęcim, tel. +48 33 844 18 21...25, fax +48 33 842 42 18.
www.synthosgroup.com

Agocel I 115D is also recommended. Very good results can be achieved with Viscalex and Rheovis acrylic thickeners or Tafigel PUR polyurethane thickeners.

Coalescing agents

Due to the fact that Osakryl® OSA-1M forms film in the temperature above 12°C it is necessary to add coalescing agents particularly for exterior applications. Texanol is sufficient to achieve optimal film properties and has very good compatibility with Osakryl® OSA-1M. 1,5% by weight of this coalescent counted on the dispersion amount is sufficient to lower the MFFT to about 5°C; 3% by weight lowers the MFFT below 0°C. We also recommend to use Butyl Carbitol Acetate or Butyl Cellosolve Acetate.

Fillers

Osakryl® OSA-1M is well miscible with all mineral fillers. Very good whiteness and hiding power parameters can be obtained using Omyacarb 5VA and Omyacarb 2VA. For increasing whiteness and hiding power addition of precipitated aluminium and sodium silicate Sodasil P90 is recommended. Cristobalite Sikron SF 6000 or Sibelite M 3000 provide the best performance in silicone and silicate product. Hiding power improvement can be achieved with the addition of Chinafill 830 or Dorkafil H. Mika SG or wollastonite Tremin 939-300 AST are recommended for products with increased wet scrubbing resistance.

Biocides

Osakryl® OSA-1M is protected against microbiological contamination. For final products based on Osakryl® OSA-1M protection “in can” we recommend addition of Preventol D8, Mirecide M 90 or Acticide MBS. Sufficient dry film protection can be achieved with Preventol A14D, Mirecide TF/458 or Mirecide TF 495 ECO.

Other additives

For open-time prolongation in products based on Osakryl® OSA-1M we recommend addition of Ombrelub 730. In silicone based systems the best properties can be obtained with Osakryl® OSA-1M and Wacker BS 45 or Tego Phobe 1650. In silicate based systems the best properties can be obtained with Osakryl® OSA-1M, potassium water glass Trasol KW-N and stabilizers Cycloquart i Cycloquart HS.

PACKAGE AND TRANSPORTATION

Acid resistant and heat insulated road tankers, IBC plastic containers or plastic drums with polyethylene bags inside. Package and transportation are not subject to regulations for hazardous materials transportation (ADR, RID). The other packages can also be used if previously agreed between the producer and a customer. Package must not deteriorate the product.

STORAGE

Store at temperature range from 5 to 35°C. Drums should be stored in one layer. If stored in these conditions the product does not change its properties in the period of six (6) months from the date of production.

Synthos Dwory 7 spółka z ograniczoną odpowiedzialnością S.K.A.
(dawniej „Synthos Dwory” Sp. z o.o.)
ul. Chemików 1, 32-600 Oświęcim, tel. +48 33 844 18 21...25, fax +48 33 842 42 18.
www.synthosgroup.com