

## TECHNICAL DATA SHEET

# SYNAQUA® 4804

*Alkyd Emulsion*

### PRODUCT APPLICATION DETAILS

SYNAQUA® 4804 is a short oil alkyd emulsion designed for use in high performance decorative paints.

SYNAQUA® 4804 has been developed primarily for trim paints. The properties of the emulsion make it also suitable for other applications such as wall paints, exterior primers for wood or metal, direct to metal and corrosion resistant primers.

SYNAQUA® 4804 is formulated without alkylphenolethoxylates, and is ammonia-, solvent- and plasticiser- free.

### SALES SPECIFICATIONS

	CHARACTERISTICS	METHODS
Solid content (125°C)	49 - 51 %	ISO 3251
pH	6.5 - 8.5	ISO 976
Viscosity (Brookfield DVE, spindle1, 10rpm) (23°C)	300 max mPa.s	ISO 2555

### OTHER CHARACTERISTICS¹

	CHARACTERISTICS	METHODS
Appearance	White milky liquid	-
Solvent	Water	-
Density	1.07 g/ml	ISO 2811
Fatty acid type	Linoleic rich	-
Fatty acid content	37 %	-
Average particle size	300 max nm	ISO 13321

¹The data provided for these properties are typical values, intended only as guides, and should not be construed as sales specifications

### MARKETS

#### Coatings & Inks

- Architectural Coating
  - Exterior Wall
  - Interior Wall
  - Primers
  - Specialty Coatings
  - Stains
  - Trim

### PERFORMANCE BENEFITS

- Extremely low VOC content (no requirement for coalescing solvents)
- High gloss potential
- Quick drying time
- Very good hardness development
- Low yellowing
- Good application characteristics
- Good stability with fillers and anticorrosive pigments

# SYNAQUA® 4804

## FORMULATION GUIDELINES

### DRIERS

It is recommended to use driers that have been especially developed for water based coatings.  
A suitable drier for SYNAQUA® 4804 can be the use of a plurimetalllic drier, for exp. Additol® VXW 6206 <sup>(1)</sup> at 1.5% on resin solids or the use of 0.1-0.15% of cobalt alone on resin solids. Co-free driers such as BORCHI® OXY - Coat 1101 <sup>(2)</sup> at 0.5% on resin solids can also be used.  
Unlike solvent-based alkyds no antiskinning agent is required when formulating with SYNAQUA® 4804.

### RHEOLOGY

Rheology and viscosity can be controlled by using associative thickeners such as HEUR thickeners, e.g. Coapur™ XS 22 <sup>(3)</sup>, Coapur™ 830 W <sup>(3)</sup>, hydrophobically modified polyether thickeners, e.g. Aquaflow® NHS 300 <sup>(4)</sup>, Aquaflow® NLS 205 <sup>(4)</sup>.

### COMPATIBILITY

SYNAQUA® 4804 may be used in combination with (styrene-)acrylic emulsions. However, the compatibility has to be carefully checked in each system.

### OTHER ADDITIVES

Defoamers such as Byk®-022 <sup>(5)</sup>, Byk®-028, Byk®-093 <sup>(5)</sup>, Surfynol® MD20 <sup>(6)</sup>, Surfynol® DF-58 <sup>(6)</sup>, FoamStar® ST 2438 <sup>(7)</sup>, Tego® Airex 902W <sup>(8)</sup> can be used without adversely affecting paint performance.  
The correct choice of the dispersing agent is essential to ensure the maximum performance from the alkyd emulsion. Dispersing agents such as Coadis™ BR 85 <sup>(2)</sup>, for example or Disperbyk®-190 <sup>(5)</sup> can be used.  
It is not recommended to use SYNAQUA® 4804 in the millbase.

Notes: <sup>(1)</sup> Allnex, <sup>(2)</sup> OMG Borchers GmbH, <sup>(3)</sup> Coatex, <sup>(4)</sup> Ashland Specialty Ingredients, <sup>(5)</sup> Byk, <sup>(6)</sup> Air Products, <sup>(7)</sup> BASF, <sup>(8)</sup> Evonik Tego Chemie GmbH

STARTING FORMULATION			
	A	B	C
REAFREE® 8304-T	608	-	-
REAFREE® 8784-T	-	583	-
REAFREE® 8184-T	-	-	564
Titanium Dioxide <sup>(1)</sup>	317	317	317
β-Hydroxyalkylamide <sup>(2)</sup>	44	44	63
CRAYVALLAC WN-1495	10	10	10
Flow modifier <sup>(3)</sup>	10	10	10
Benzoin	2	2	2
Barium sulfate	32	34	34

<sup>(1)</sup> Kronos® 2160  
<sup>(2)</sup> Primid® XL-552 (EMS Chemie)  
<sup>(3)</sup> Resiflow PV-88 (Worlée)

DRY-blend paints A/B: 50/50  
DRY-blend paints A/C: 50/50

## PRODUCT SAFETY

Please refer to the corresponding Safety Data Sheet.

## STORAGE AND HANDLING

SYNAQUA® 4804 should be stored indoors in the original, unopened and undamaged container, in a dry place at storage temperatures between 5°C and 30°C. Exposure to direct sunlight should be avoided. The product is protected to prevent any microbial deterioration during normal conditions of storage but care should be taken to avoid accidental contamination during subsequent handling and processing. In the above mentioned storage conditions the shelf life of the resin will be from the shipping date.  
Shelf Life Durability (Months): 6

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