

TYPE

Water-thinnable, oil-free, saturated polyester with good resistance to hydrolysis

USES

As a binder in the formulation of stoving top coats and primers.

FORM SUPPLIED

Approx. 56 % in diethylene glycol mono-butylether/water and neutralized with dimethyl ethanol amine, approx. 27 : 13.5 : 3.5

SPECIFICATION

Non-volatile content (1 g, 1 h, 125 °C):	56 ± 2 %
DIN EN ISO 3251	
Viscosity (23 °C):	9,500 ± 1,500 mPa·s
DIN EN ISO 3219/A.3	
Acid value, supply form:	23.5 ± 1.5 mg KOH/g
DIN EN ISO 2114	
pH (10% solution with in water):	8.55 ± 0.25
DIN ISO 976	
Hazen colour value:	≤ 100
DIN EN 1557	

OTHER DATA*

Appearance:	clear to slightly cloudy
Density (20 °C):	approx. 1.0 g/cm ³
DIN EN ISO 2811-2	
Flash point:	80 - 100 °C
DIN EN ISO 2719	

* These values provide general information and are not part of the product specification.

PROPERTIES / APPLICATIONS

SETAQUA B E 356 is an oil-free polyester with extremely good resistance to hydrolysis which is already neutralized with dimethyl ethanol amine. It is thinned with water for application. Combined with hexamethoxymethyl melamine resins (HMMM) and partially methyl-etherified melamine resins.

SETAQUA B E 356 can be used to formulate water-thinnable stoving top coats and primers. Combination with HMMM resins yields highly flexible primers and top coats. SETAQUA B E 356 should be particularly suitable for dip primers applied beneath powder coatings. If SETAQUA B E 356 is combined with partially methyl-etherified amino resins, stoving systems can be formulated which cure in 30 minutes at 120 °C. As a rule, the ratio of SETAQUA B E 356/amino resin is between 85 : 15 and 75 : 25, calculated on the solid resin. Given the many different amino resins on the market, compatibility should always be tested.

Coatings based on SETAQUA B E 356 will remain stable at room temperature for at least 6 months. It should be ensured that the pH is adjusted to 8.4 to 8.8 after formulation.

Depending on the reactivity of the amino resin and the pigment/extender combination used, the viscosity of the coatings and primers may increase slightly after prolonged storage at room temperature. This increase may be minimized by checking the pH and adjusting it as necessary to 8.4 to 8.8.

Formulation

SETAQUA B E 356 is characterized by its good pigment wetting properties and high shear stability. Bead and sand mills have proved suitable for grinding. The pigments and extenders are ground in some of the SETAQUA B E 356 and deionized water to ensure the necessary dispersion viscosity. Because of the excellent shear stability, dispersion temperatures of up to 50 °C have no detrimental effect. The pigments and extenders used should have the lowest possible water-soluble content.

Given the many different pigments and extenders available, the storage stability should always be tested. Most rutile titanium dioxides are suitable. K-White 140 W¹ has proved suitable as an anti-corrosion pigment for these formulations. To ensure the rapid breakdown of foam during dispersion, a suitable defoamer, e.g. Dehydran 671², must be added. Flow promoters such as BYK-301³ can be added to spray and dip coatings to improve their flow properties.

¹ Tayca Corporation

² BASF

³ BYK-Chemie

SOLUBILITY / THINNABILITY

Water	soluble
Glycol ethers	soluble
Alcohols	soluble

COMPATIBILITY

Water-thinnable, partially etherfied melamine resins, e.g. CYMEL® 325, 327	compatible
Hexamethoxymethyl melamine resins	compatible

STORAGE

When stored in originally sealed containers at temperatures not exceeding 30 °C, the product will remain stable for at least 270 days.

General information: The product is sensitive to frost. Freezing will damage the product irreversibly. Prolonged storage and storage at higher temperatures may result in a decrease of viscosity and/or an increase of average particle size, possibly resulting in sedimentation or coagulation. Contamination with certain bacteria, fungi or algae may render the product unusable.

LABELING AND REACH APPLICATIONS

This product data sheet is only valid in conjunction with the latest edition of the corresponding Safety Data Sheet. Any updating of safety-relevant information – in accordance with statutory requirements – will only be reflected in the Safety Data Sheet, copies of which will be revised and distributed. Information relating to the current classification and labeling, applications and processing methods and further data relevant to safety can be found in the currently valid Safety Data Sheet.