TECHNICAL DATA SHEET: APP-DF4 DEFOAMER

DESCRIPTION

APP-DF4 is a polyether-based defoamer. It is particularly recommended for use in polycarboxylate superplasticizers, ready-mixed concrete, ready-mixed mortar, and fibre cement boards.

CHARACTERISTICS

- The material composition contains no NP or APEO;
- The material composition contains no substances listed in the SVHC list under the REACH Regulation;
- Excellent compatibility with application systems.

INGREDIENTS

- Composed of fatty alcohol polyethers.

TYPICAL PRODUCT DATA

Property	Physicochemical description	Test method
Appearance	At room temperature, it is a colourless to pale yellow, transparent liquid with no obvious mechanical impurities.	Visual
Viscosity (25 °C/ mPa·s)	100-600	GB/T 5561-2012

Note: The above data are for reference only and shall not be regarded as technical indicators.

METHOD OF USE

(1) The APP-DF4 defoamer is a mixture and constitutes a thermodynamically unstable system; after prolonged storage, it may separate or develop slight sedimentation, which is a normal phenomenon. Users should give the product a brief stir before use; this does not affect its performance (stir at 30 rpm–60 rpm).

(2) This product must not be diluted with water. Dilution with water may cause separation and reduce the foam-suppressing effect, ultimately increasing operating costs; App International accepts no responsibility for such consequences.

(3) When using this product on-site, it is recommended that the defoamer be added in a location where it disperses readily. The optimal addition point, dosage, method of addition, and dilution ratio should be determined by the customer through testing based on the actual on-site conditions.

PACKAGING & STORAGE

The APP-DF4 defoamer is packaged in 25 kg plastic drums, 200 kg plastic drums, or 1,000 kg tonne drums. This product should be stored in a dry, cool place; it must not be exposed to direct sunlight or placed near heat sources. In the event of fire or combustion, extinguish the fire using the standard methods for extinguishing petroleum products.

SHELF LIFE

Under the recommended storage temperature (5 °C–40 °C) and while unopened, the shelf life is 12 months from the date of manufacture.

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APPENDIX I: PERFORMANCE DATA

Defoaming rate (ml/s)	> 15
Foam suppression rate (ml/s)	> 0.5

The above data were obtained through laboratory testing and are provided for reference only.

1. TEST CONDITIONS

Test temperature	Room temperature
Test medium type	Polycarboxylate superplasticizer
Test medium addition	40 g
Application method for defoamer	Add to the stock solution
Defoamer dosage	0.2%

2. TESTING METHOD

1. Compatibility testing: Measure 40 mL of water-reducing agent using a 100 mL plastic bottle, add 0.080 g of the test defoaming agent, and place the mixture in a rotary shaker for 4 hours (200 rpm); after completion, allow it to stand for 24 hours to observe and record its compatibility.

2. Internal addition of defoaming agent and defoaming performance testing: Measure 5 g of the specified foaming medium using a 250 mL plastic bottle, dilute it with water to a total mass of 100 g, place it on a vertical shaker, and set the following parameters: rotational speed: 450 rpm; amplitude: 30 mm; then shake for the different durations and record the defoaming time after each shaking cycle is stopped.

3. CALCULATION METHOD FOR FOAM DISSIPATION AND SUPPRESSION RATES

Before the addition of the defoaming agent, the foam volume V formed during vertical oscillation is compared with the time t' required to eliminate the foam after each oscillation following the addition of the defoaming agent. Data obtained after 1 min of vertical oscillation are recorded as the defoaming rate, while data obtained after 5 min of vertical oscillation are recorded as the foam suppression rate.

$$\eta = v/t'$$

v — foam volume;
t' — foam elimination time after the addition of the defoaming agent.

This information is based on our present state of knowledge and is intended to provide general notes about our products and their use only. It should not therefore be construed as guaranteeing the consistency or permanency of the products or specific properties of the products described or their suitability for a particular application. Any existing industrial property rights must be observed.

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