



MODULAST™ ACE Product Description

MODULAST ACE is a **specialized, superior grade of dipropylene glycol dibenzoate** designed primarily for use in reactive polyurethane systems. This new grade features consistently low hydroxyl levels, which eliminates the need for batch-to-batch adjustments to account for individual lot variations. This improved grade may also be used in applications previously unexpected for dibenzoates, such as reactive polyurethane sealants and adhesives, without compromising storage stability.

Specifications

Acidity, as benzoic acid, maximum, %.....	0.1
Assay, as benzoate ester, minimum, %.....	98.0
Color, APHA, maximum	40
Hydroxyl number, maximum, mg KOH/g	3
Moisture content, maximum, %.....	0.07

Typical Properties

Assay, as benzoate ester, %.....	98.8
Acidity, as benzoic acid, %.....	0.01
Boiling point, 5 mmHg, °C	210
Boiling point, 760 mmHg (extrapolated), °C.....	346
Color, APHA	30
Density, ASTM D1475, 25°C, lbs/gal	9.4
Flash point, ASTM D92, °C	229
Freeze point, °C	<-20
Glass point, by DSC, °C.....	-52
Hydroxyl number, mg KOH/g	2.2
Moisture content, %	0.03
Refractive index, 25°C	1.5296
Solubility, in water, %	<0.1
Solubility, water in, %	793
Solubility parameter, Small's, Hildebrands	9.1
Specific gravity (density, g/mL), 25/25°C	1.124
Surface tension, ASTM D1331, 25°C, dynes/cm.....	32
Vapor pressure, 25°C (extrapolated), mmHg.....	2.9 x 10 ⁻⁴
Viscosity, Brookfield RVT, 20 RPMs at 25°C, cPs and mPa·s	126
VOC, ASTM D2369, %.....	1.1

Regulatory Information

FDA CFR Listings

- **21 CFR 175.105** – Adhesives (PART 175 – INDIRECT FOOD ADDITIVES: ADHESIVES AND COMPONENTS OF COATINGS, Subpart B – Substances for Use Only as Components of Adhesives)
- **21 CFR 176.170** – Components of paper and paperboard in contact with aqueous and fatty foods
- **21 CFR 176.180** – Components of paper and paperboard in contact with dry food

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Global Inventories

Kalama® VITROFLEX®, K-FLEX®, and MODULAST™ products are included on or exempted from many global inventories. Please reference the product safety data sheet (SDS) for current global inventory status and other regulatory information. Current SDS's can be found on our website at www.emeraldkalama.com or can be requested from product.compliance@emeraldmaterials.com.

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