

Electronic Polymers

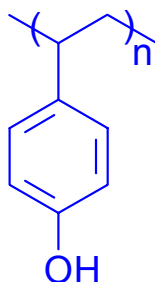
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DuPont Electronic Technologies



PHS-XE-HP

HIGH PURITY Electronic Grade Poly-(p-hydroxystyrene)



CAS Name: Homopolymer of 4-ethenylphenol
CAS Number: 24979-70-2

EP's PHS-XE-HP is a low metals, ultra-high purity, 100% linear vinyl homopolymer available in a variety of molecular weights. Produced via the same free radical chemistry from ASM as EP's standard PHS-XE-01, the high purity (HP) material process incorporates in situ fractionation and purification of the resin, yielding a product of higher 248 nm transparency, narrower polydispersity, higher T_g , and near zero impurities content.

This electronic grade homopolymer targets use in critical layer resists for 248 DUV photolithography used in semiconductor chip manufacturing. The resin offers potential for reduction in defects commonly found in DUV semiconductor manufacturing that may arise from resins used in process photoresists.

PHS-XE-HP is available in molecular weights ranging from 2,500 to 50,000 or more. Standard product offerings have molecular

weights of 10,000, 15,000, and 20,000 in either dry powder form, or in organic solvents such as PGMEA or Ethyl Lactate at solids levels from 20 to 40 wt%. PHS-XE-HP powder is hygroscopic and, as such, readily absorbs moisture from the air. PHS powder may be dried under vacuum at up to 70 °C.

PHS-XE-HP Physical Properties:

Physical Appearance: White to off-white free flowing powder

Odor: Characteristic phenolic

Glass Transition Temp: 170 - 180 °C

Typical Polydispersity: 1.5 to 1.8

Typical Specifications:

Absorbance, 248 nm, max: 180 L/mole cm by UV

Acetoxy Residual, wt% max: Less than 0.5

Individual Metal, ppb, max^(a): 100

Molecular Weight: ± 1000 from standard^(b)

Water, ppm max for solution: 2000

Water, wt% max for powder: 1.5

Notes:

(a) Na, Fe, Ca, Al, K, Zn, Pb, Cu, Mn, Mg, Cr, Ni; all by GFAA.

(b) GPC measured MW of PHS will agree within ± 1000 of the reference analytical standard.

For additional information on deliveries, order placement and pricing, write or call us at our offices in Raleigh, NC at 919 248-5135, or by FAX at 919 248-5571

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