

Title (en)
EPOXY RESIN-AMINE ADDITION PRODUCTS FOR USE AS EMULSIFIERS FOR EPOXY RESINS; AQUEOUS BASED EPOXY RESIN DISPERSIONS AND PROCESS FOR PRODUCING THE SAME

Title (de)
EPOXID-AMIN-ADDUKTE ZUR VERWENDUNG ALS EMULGATOREN FÜR EPOXIDHARZE; EPOXIDHARZDISPERSIONEN AUF WÄSSRIGER BASIS UND VERFAHREN ZU IHRER HERSTELLUNG

Title (fr)
PRODUITS D'ADDITION D'EPOXYDE ET D'AMINE UTILES COMME EMULSIFIANTS DE RESINES EPOXYDES; DISPERSIONS DE RESINE EPOXYDE A BASE AQUEUSE ET LEUR PROCEDE DE PREPARATION

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Application
EP 97951203 A 19971114

Priority

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Abstract (en)

[origin: DE19751143A1] Epoxide-amine adducts comprise: (A) an epoxide-amine adduct(s) formed from an epoxide compound(s) based on aromatic or cycloaliphatic alcohol and/or novolacs of epoxide functionality > 1 and up to 4 and average epoxide equivalent wt. 70-1000 g/eq with an amino group terminated polyalkylene glycol(s) optionally mixed with determined polyalkylene glycols of average amine functionality 0.5-1.5, average mol. wt. 700-5000, ethylene oxide content at least 60 wt.% and ratio of polyalkylene glycol(s) to polyepoxide(s) of 0.01:1-0.9:1; and (B) an epoxide-amine adduct(s) formed from an epoxide compound(s) based on polyfunctional aliphatic alcohol(s) of epoxide functionality > 1 and up to 4 and average epoxide equivalent wt. 70-6000 g/eq with an amino group terminated polyalkylene glycol(s) of average amine functionality 0.5-1.5, average mol. wt. 700-5000, ethylene oxide content at least 60 wt.% and ratio of polyalkylene glycol(s) to polyepoxide(s) of 0.01:1-0.9:1. The ratio of (A):(B) is 5:95-95:5. Also claimed are: (i) the preparation of the above adducts by reacting amine terminated polyalkylene glycol(s) with polyepoxide(s) at 70-180 deg C under N2 optionally in the presence of an epoxide-amine accelerator to give an amine hydrogen equivalent of at least 50%; (ii) curable, aq., solvent-free or solvent-poor epoxide resin dispersions comprising the above adduct, epoxide resin, in the form of polyglycidyl ethers based on aromatic or cycloaliphatic alcohol and novolacs of epoxide functionality > 1 and up to 3.5 and average epoxide equivalent wt. 70-1000 g/eq, and optionally thinner, pigments, fillers, etc. dispersed in water; and (iii) the preparation of the dispersions at most 65 deg C. Preferably the epoxide resin in (A) is polyglycidyl ether based on Bisphenol A, Bisphenol F and/or novolacs and preferably of epoxide functionality 1.5-2.7 and average epoxide equivalent wt. 160-360 g/eq. The epoxide resin in (B) is polypropylene glycol diglycidyl ether and/or diglycidyl ether based on ethylene oxide/propylene oxide copolymer(s) and preferably of epoxide functionality 1.5-2.7 and average epoxide equivalent wt. 250-800 g/eq. The terminated polyalkylene glycols are preferably an ethylene oxide/propylene oxide copolymer of EO/PO ratio 18.6/1.6 and of average mol. wt. 1000 terminated with an amino group and/or an ethylene oxide/propylene oxide copolymer of EO/PO ratio 32/10 and of average mol. wt. 2000 terminated with an amino group.

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