In this study, it was aimed to determine the effects of cadmium chloride treatments on some phenolic compound production in cell suspension cultures of Öküzgözü grape cultivar. Petioles were placed onto a solid B5 culture medium supplemented with 0.5 mg/l benzyladenine, 0.5 mg/l indoleacetic acid. Cell suspensions were initiated by inoculating of callii into fresh liquid media supplemented with macro elements (B5), microelements (MS), vitamins (Morel), 0.1 mg/l naphtalen acetic acid, 0.2 mg/l kinetin and 250 mg/l casein hydrolysate. Cadmium chloride was applied to cells at two different concentrations (1.0 and 1.5 mM) at day 7 and cells were harvested at days 0, 2, 4, and 6. Amounts of 3,4-dihydroxybenzoic acid, catechin+epicatechin, eridictiol and kaempferol content were determined by HPLC. As a conclusion, phenolic compounds accumulation was changed to cadmium concentration and sampling time. Cadmium was effect positively on phenolics accumulation.