

The invention relates to the carbon chemistry, namely to chemical processes for the treatment and production of composite ultrafine carbon material, mainly containing three or two carbon phases: carbon in diamond cubical modification, carbon in crystal phase and carbon in radio-amorphous phase, and also to the production (enrichment) of diamonds from synthesis product of synthetic diamonds and carbon nanotubes from synthesis product of nanotubes and can be used in production of polycrystals, adsorbents, catalysts, fillers to different materials, polishing-finishing compositions, film coatings of radiation-hard materials, etc. and provides selectivity and predicted obtaining of ratio of two (or three) carbon phases in ultrafine carbon material by means of fixed oxidation of carbon constituent, and thereby the increasing of oxidation efficiency of carbon constituent, decreasing the use of toxic chromium compound, whereupon an environmental safety of the process is improved. Therefore in the treatment process of ultrafine carbon material, comprising the removal of metals and their compounds from ultrafine carbon materials by means of treatment with acid at heating, the removal of non-diamond forms of carbon with acid treatment with the use of oxidant, washing of material from products of acid treatment, neutralization of rinse water and utilization of neutralization products are carried out. According to the invention after removal of metals and their compounds the analysis of the obtained material to the ratio of carbon phases is carried out, and the removal of non-diamond carbon forms is carried out in quantitative ratio of substance mass of oxidant and mass of carbon material of (1-70):100.