The formation of tritium-containing codeposits in tokamaks with carbon plasma-facing components has serious implications for the inventory of tritium in the torus. In the case of ITER, safety and operational requirements will necessitate periodic removal of the accumulated tritium. Several T-removal techniques are being developed and one of the most promising ones is thermo-oxidation, which removes the tritium via erosion of the codeposit itself. This technique has been demonstrated in the laboratory to be highly effective at removing tokamak codeposits, provided the non-carbon content of the codeposits is not too high, typically less than a few at% [1]. The thermo-oxidation technique should also be suitable for the removal of tritium-containing carbon-based dust from the tokamak. Some fraction of the dust formed in ITER is likely to be due to the flaking of codeposited layers, and should readily be oxidized. Furthermore, tokamak dust is likely to be found at the bottom of the reactor vessel in non-plasma-line-of-sight locations and thus would not easily be removed by some of the proposed alternative T-removal techniques, e.g., laser and flash lamp desorption and plasma discharges. Here, we present our first results on the thermooxidation of various laboratory-produced carbon dusts/particulates and dust collected from the DIII-D tokamak.