# Separation and reactivity of soot and graphitic black carbon

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Graphitic black carbon (GBC) is a highly refractory substance composed of (*i*) soot and (*ii*) petrogenic, radio-carbon dead graphitic carbon. GBC is a potentially important contributor to the slowly-cycling carbon cycle due to its long lifetime; however photo-oxidation studies suggest that it might be more reactive than previously thought. Exposure for 310, 250 and 400 hours to UV radiation of n-hexane soot, graphite and GBC isolated from marine sediment resulted in carbon losses of 79, 15 and 20% respectively. A micro-scale heavy liquid fractionation method using sodium polytungstate was developed to separate soot and graphitic carbon. This method shows promising results with recoveries >95% for n-hexane soot and graphite, and could therefore allow to study the reactivity of each phase separately.