

Carbon-14

A known mass of sample material is combusted in a two-stage catalytic pyrolyser. The pyrolyser consists of several independently controlled furnaces, through which a silica tube is inserted. The latter half of the silica tube carries an alumina/platinum catalyst, which is maintained at 850°C.

The sample is heated in a stream of air and in the presence of the catalyst, to convert carbon to carbon dioxide. This is collected in a bubbler containing carbontrap.

An aliquot is then measured in a liquid scintillation counter to determine the carbon-14 content. Carbon-14 of a known activity concentration is used to determine the counting efficiency.