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PROCEDURE FOR AAS ANALYSIS

Machine/Equipment used:
PerkinElmer AAnalyst 400 AA Spectrometer

Reagent Use: Perchloric acid

PROCEDURE FOR AAS METHOD

a. A representative sample was first pulverized using mortar and pestle.
b. About 1g of each sample was weighed into the dry digesting tube.
c. 5ml of Conc. Perchloric acid was added in the ratio and stirred.
d. The digesting tube is placed on the water-bath set at 100^0C to boil for 2 hours.
e. To avoid caking, the sample was shaken vigorously and the resulting solution is referred to as stock solution.
f. The stock solution is filtered and make up to 50mls with distilled water
g. The stock solution was used directly to determine the elements.

STANDARD PREPARATION

5ml of your stock solution is taking into 100ml of flask and make up to 50ml with distill water.

PRINCIPLES OF ATOMIC ABSORPTION SPECTROPHOTOMETER (AAS) FOR ELEMENTAL ANALYSIS

The principle of Atomic Absorption Spectrophotometer (AAS) is based upon the concept that atoms of an element can absorb electromagnetic radiation. This occurs when the element is atomized and the wavelength of light absorbed is specific to each element. Thus, the atomic absorption spectrophotometer, comprises an atomizing device, a light source and a detector. A lowering of response in the detector during the atomization of the sample in a beam of light, as a consequence of atomic absorption, can be calibrated and is sensitive at the mg/l level. The sample was prepared in a solution and aspirated via a nebulizer and atomized in an acetylene-air or acetylene-nitrous oxide flame.

Efosa Madison
Director (Student Affairs)