

KES

Method of Production Inorganic
and Metal Standard Solution
for Atomic Absorption Spectrometer

KES T – M247

(EST.) 1994 – 01 – 05

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1. Scope of application

This standard shall applied for manufacturing method & preservation method for standard solution or prescribed solution used for atomic absorption spectrometer analysis.

2. Standard material for manufacturing standard solution

High purity metal & high purity reagent shall be used as material of standard solution used for component analysis of steel & nonmetallic material & inorganic material by atomic absorption spectrometer analysis (or ICP)

(1) High purity reagent

Use metal of over 99.9 % purity, easily soluble, pieces type, degreased and dried. And in case that oxidized film of high purity material is formed, dissolve, remove it with weak hydrochloric acid, wash it with water, wash and dry it with methyl alcohol, use it.

(2) Reagent

Metallic compound and a chloride and a carbonate are mainly used. Reagent should be at least 1st grade and stable compound that chemical change of weathering deliquescence does not occur. At this time, if necessary, after removing impurities by recrystallizing, redeposition, sublimation, dry it at constant temperature and dissolve it with acid, boil solution sufficiently, in some cases, redissolve deposit by vaporizing and drying. When dissolving, cover it with watch dish for protecting loss and pollution.

3. Method for preservation

Understanding exact composition of standard material is main factor for determining preservation of preserved solution and accuracy of analysis, proper scope of each component concentration of standard undiluted solution is 0.05 ~ 1.0 % and it can be preserved for a few week or a few month. For weak solution, make new solution often for avoiding change of concentration, for very weak solution (≤ 1 ppm), manufacture it whenever it is used, if necessary, it is possible to add preservative material that like acid, etc.