

Certificate of Analysis

Standard Reference Material 722 Metals in Heavy Oil

This standard reference material was prepared at the National Bureau of Standards as a central "primary" standard to be used to check the daily working standards used in spectrochemical analysis for metals in lubricating oil. It is not intended to be used as a daily working standard.

Preparation was by dissolution of carefully weighed amounts of NBS metallo-organic standard reference materials in a heavy lubricating oil, defined as MIL-L-6082 (grade 1100), by the techniques described in NBS Monograph 54. Tests indicate that the dissolved metallo-organics do not tend to gravitate toward the top or the bottom of the container. However, at higher concentrations some of the elements may precipitate over a period of time. For this reason it is recommended that the oils be shaken before a sample is withdrawn. The concentrations of metallic ions at various nominal levels are listed below:

Nominal concentration, ppm	Actual concentration, ppm									
	Al	Cr	Cu	Fe	Pb	Mg	Ni	Si	Ag	Sn
1										
3										
5										
10										
30										
50										
100										
300										
500										

Since the amount of auxiliary solvent necessary to achieve solution causes the viscosity of the oil to change, the viscosities at 30 °C were determined on the following samples:

Sample Concentration	Kinematic Viscosity
ppm	Stokes