

Certificate of Analysis

Reference Material LO-010698

Lubricating Oil

Reference Material LO-010698 consists of a 10 ml vial with teflon coated septum crimp cap, containing approximately 10 ml of a regular used lubricating oil, containing the usual additives and wear metals. This RM is intended primarily as a quality control material for use in the determination of wear metals and additive elements.

Certified Property Values

The certified values are given in table 1. The certified values in table 1 have been derived from the results obtained from an international interlaboratory study in which 20 laboratories participated. The results of this interlaboratory studies are presented and discussed in the I.I.S. report IIS98L01-RM.

Table 1. Certified values^b for LO-010698.

<u>Parameter</u>	<u>Certified value^a</u>		
Aluminium as Al, mg/kg	24.52	±	2.08
Barium as Ba, mg/kg	165.7	±	14.4
Calcium as Ca, mg/kg	2805.3	±	105.9
Chromium as Cr, mg/kg	3.53	±	0.28
Copper as Cu, mg/kg	24.11	±	1.01
Magnesium as Mg, mg/kg	136.30	±	8.11
Phosphorus as P, mg/kg	918.0	±	28.3
Zinc as Zn, mg/kg	967.7	±	22.8

- a) The estimated uncertainty is given as 95% confidence limits
b) The following values were also determined for this RM. These values are not certified, but for indication only:
Iron, mg/kg 199.98 ± 15.76 ; Lead, mg/kg 186.56 ± 17.94 ; Nickel, mg/kg 1.26 ± 0.36 ; Silicon, mg/kg 15.55 ± 1.90 ; Tin, mg/kg 5.19 ± 1.04 ; Vanadium, mg/kg 0.75 ± 0.78

NOTICE AND WARNINGS TO USERS

Shelf life: The preparation of this RM was finished August 11, 1998. When stored properly and unopened, the expire date of this RM is **June 2007**. I.I.S. regularly checks the validity of the RM's in stock. In case of any doubt about the validity of the RM you are advised to contact I.I.S.

Storage: Vials should be stored in a dark and cool place, preferably at a temperature between 0 °C and + 10 °C.

Suggested procedure for use of the RM as quality control sample:

Before opening a vial and taking a sample for analysis, the contents must be mixed to ensure homogeneity. Once the vial has been opened, the material is susceptible to contamination (e.g. laboratory dust or vapours) or losses. Certified values are not applicable to vials stored after opening, even if resealed.

Safety handling instructions: The metals present in the RM are toxic; therefore, care should be exercised during handling and use. Use proper methods for disposal of waste.

Spijkensisse, The Netherlands
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