



Institute for
Interlaboratory Studies

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 with approximately 10 mL of a regular used lubricating oil, with 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 and have been derived from the results obtained from an international interlaboratory study in which 20 laboratories in 17 different countries participated. The results of this interlaboratory studies are presented and discussed in the PT report iis98L01. A separate certification report about the RM evaluation can be ordered, see www.iisnl.com.

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

<u>Parameter</u>	<u>Certified value^a</u>
Aluminum 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, see the certification report.

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 at June 1, 1998. When stored properly and unopened, the expire date of this RM is **December 2023**. The validity of the RM vials in stock is regularly verified by analytical testing by an ISO/IEC17025 accredited laboratory. If there is any doubt about the validity of the RM you are advised to contact iis (nl.iis@sgs.com).

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: The contents must be mixed to ensure homogeneity before opening a vial and taking a sample for analysis. Once the vial has been opened, the material is susceptible to contamination (e.g. laboratory dust or vapors) 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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