



Certificate of Analysis

AR-3505

SULFUR AND CHLORINE IN LUBE OIL RM

LOT # 051220

LID ID 051220

% SULFUR

MEAN = 1.00

Expanded Uncertainty = ± 0.03

(k=2, @ 95% confidence limit)

% CHLORINE

MEAN = 0.50

Expanded Uncertainty = ± 0.02

(k=2, @ 95% confidence limit)

Method used for verification: EDXRF Scan, ARI-LAB-619

The intended use of this standard is for the calibration and or verification of sulfur and chlorine analysis in lube oil or similar materials by XRF or other valid testing methods. This standard was produced gravimetrically using high purity materials, with balances calibrated and checked by precision NIST traceable weights. Metrological traceability is to the SI derived unit of mass fraction expressed as percent. The sample size used for testing was placed into a removable sample cup, equipped with replaceable X-ray transparent plastic film and providing a sample depth of at least 4mm and a diameter of at least 10mm. When necessary, professional judgment is applied toward consideration of data and statistical information. The statistical analysis and the overall direction and coordination of the analytical measurements leading to certification were performed by K.E. Dyer, Chief Chemist at Alpha Resources. Normal test procedures should be employed when using this standard. This includes using the *reproducibility* and *repeatability* uncertainty for the test method you wish to employ. The material used in production of this standard was identified in accordance with ARI-LAB-603. The above values relate only to the material used to produce this standard.

Before use, the contents of the bottle should be mixed by gentle mixing. Any exposure to air and light should be kept to a minimum. Keep sealed and store upright under normal laboratory conditions. This bottle contains 100ml to be used as per your test method. Sample size and minimum sample size may be contingent upon your test method or instrumentation manufacturer recommendations. While unable to determine a definite shelf life this reference should be reviewed 20 years from the date of certification. Once opened this certificate is valid for two years.

Remedies for any claimed defect in this product will be limited to product replacement or refund of the purchase price. In no event, shall Alpha Resources be liable for incidental or consequential damages. This certificate cannot be reproduced except in full.

This is a Reference Material RM and is verified by above-mentioned methods. For good laboratory practice, it is recommended that all reference materials be verified as fit for purpose prior to use. Produced under the strictest of quality systems and good laboratory practices (GLP).

EXPIRATION DATE

THIS RM IS VALID FOR TWO YEARS FROM THE DATE OF OPENING

Certified January 5, 2021

Chief Chemist