

TT-L-190D
AMENDMENT-1
July 1, 1977

FEDERAL SPECIFICATION

LINSEED OIL, BOILED, (FOR USE IN ORGANIC COATINGS)

This amendment, which forms a part of Federal Specification TT-L-190D, dated December 3, 1976, was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

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Table II, line 9, delete "lead content" and "D3335".

Add paragraph 4.3.3.1 as follows:

4.3.3.1 Lead content.

4.3.3.1.1 Sample preparation. Reduce 50g of linseed oil to 5g on a steam bath. Then add 10g of a mixture of boric acid and bismuth metal (less than 325 mesh) which was prepared by intimately blending 1000.0g of boric acid and 1.000g bismuth metal. Reduce the resulting mixture to dryness on a steam bath; then transfer to an oven and dry at 110°C for 1 hour. Thoroughly mix and grind the dry solid to a fine powder, and press 2.0g of this powder into a disc 6mm thick and 40mm in diameter. Separately evaporate 50g of linseed oil to dryness and weigh the residue in order to determine the total nonvolatile matter.

4.3.3.1.2 Procedure. Lead content shall be determined using an X-ray fluorescence spectrometer capable of determining lead content at a minimum level of 0.03 percent by weight of the total nonvolatile. The settings for a wavelength dispersive fluorescence spectrometer shall be as follows: (1)

Element	Analytical Line	Angle	Crystal	Detection	Collimator	X-ray tube (MO)
Pb	L	33.93	LiF(200)	Flow S.C.	Fine	60Kv 45Ma
Pb (backgrd I)		33.00	LiF(200)	Flow S.C.	Fine	60Kv 45Ma
Pb (backgrd II)		35.50	LiF(200)	Flow S.C.	Fine	60Kv 45Ma
Mo	K	20.33	LiF(200)	Flow S.C.	Fine	60Kv 45Ma

Pulse height selection shall be used in all measurements, and counting time shall be 100 seconds. Place the sample disc in the wavelength dispersive unit. Measure the count rates of lead, lead background, and the Molybdenum Compton scattered background from the X-ray tube.

4.3.3.1.3 Calculation.

$$R = \frac{I_{Pb} - I_{Pb} \text{ (Background I)} + I_{Pb} \text{ (Background II)}}{I_{Mo}}$$

where I equals gross intensity. These results shall be compared to those obtained using a 0.06 percent lead standard and evaluated for compliance with the requirement in table II.

(1) Energy dispersive fluorescence spectrometers shall be set up according to the manufacturer's manual.