

TT-T-390A  
 AMENDMENT-2  
 June 23, 1977  
~~SUPERSEDING~~  
 Amendment-1  
 April 13, 1972

# FEDERAL SPECIFICATION

## TINTING MEDIUM, CONCENTRATE GENERAL-PURPOSE

This amendment, which forms a part of Federal Specification TT-T-390A, dated September 29, 1971, was approved by the Commissioner, Federal Supply Service, General Services Administration, for the use of all Federal agencies.

### PAGE 1

Paragraph 1.1. Add at the end of paragraph: "WARNING. Paints, enamels, latexes, emulsions, lacquers, and new synthetics using colors, designation 5a, 5c, and 7a, shall not be used on residential structures."

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Paragraph 3.1. Add at the end of paragraph: "Concentrates 5a, 5c, and 7a shall not be added to paints, enamels, latexes, emulsions, lacquers and new synthetics that are used on residential structures."

Table II. Delete and substitute:

TABLE II. Quantitative requirements		
Characteristics	Requirement	
	Minimum	Maximum
Consistency	100 revolutions/30 sec. 700 gm load	100 revolutions/30 sec. 750 gm load
Fineness of grind	6	

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Add new paragraphs:

3.6.7 Lead content. The tinting concentrate shall contain not more than 0.06 percent lead by weight of nonvolatile when tested as specified in 4.3.9. Colors 5A, 5C, and 7A are exempted from this requirement.

3.7 Precautionary label. Concentrates of designation 5a, 5c, and 7a shall have the following warning on each container:

#### "WARNING"

"CONTAINS LEAD. DRIED FILM OF THIS PAINT  
 MAY BE HARMFUL IF EATEN OR CHEWED."

"Do not apply on toys and other children's articles, furniture, or interior surfaces of any dwelling or facility which may be occupied or used by children."

"Do not apply on those exterior surfaces of dwelling units, such as window sills, porches, stairs, or railings to which children may be commonly exposed."

"Keep out of reach of children."

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Table III. At end of table add under Characteristics, "Lead, percent nonvolatile", under Requirement reference, "3.6.7", under Fed. Test Method Std. No. 141, "---" and under Paragraph reference, "4.3.9".

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Add new paragraphs:

4.3.8 Nonvolatile matter. Weigh 5.00 g of the concentrate into a tared evaporating dish. Heat in an oven at a temperature of  $105 \pm 2^\circ\text{C}$  for 3 hours, cool and weigh. Calculate the percentage of nonvolatile matter in the sample as follows:

$$\frac{\text{Weight of residue}}{\text{Weight of sample}} \times 100 = \text{percent nonvolatile}$$

4.3.8.1 Repeat the above determination on the enamel used in 4.3.9.1.

4.3.9 Lead content.

4.3.9.1 Sample preparation. Mix thoroughly 10.0 ml of the tinting material and 10.0 ml of General Electric "Glyptal 1202" air-drying enamel, or equal. Using a 0.006-inch film applicator and a mechanical applicator plate, duplicate drawdowns for each sample of well-mixed enamel and tint shall be made on a standard paint penetration chart and dried for 24 hours. The drawdown shall be at least 10 inches long on the sealed portion of the penetration chart. The drawdown shall be cut into discs of appropriate size to fit the sample holder of a fluorescence X-ray spectrometer.

4.3.9.2 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.

4.3.9.3 Calculation.

$$P = \frac{I_{Pb} - I_{Pb} \text{ (Background I)} + I_{Pb} \text{ (Background II)}}{2 I_{Mo}}$$

where I equals gross intensity. These results shall be compared to those obtained using a 0.06 percent lead standard made up from the same type of paint sample, and evaluated for compliance with table I.

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

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5.2 Precautionary marking. See 3.7.

Add new paragraph:

6.4 Concentrates of:

<u>Designation</u>	<u>Color</u>	<u>Pigmentation</u>
5a	Orange	Chrome Orange
5c	Orange	Molybdate Orange
7a	Yellow	Medium Chrome Yellow

Shall have this label affixed to each container:

"WARNING" Use of this material in paints, enamels, latexes, emulsions, lacquers, and new synthetics for use on residential structures is prohibited.