



Designation: D 600 – 90 (Reapproved 2001)

## Standard Specification for Liquid Paint Driers<sup>1</sup>

This standard is issued under the fixed designation D 600; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the Department of Defense.*

### 1. Scope

1.1 This specification covers liquids for use in paints, varnishes, enamels, and similar organic coatings and are solutions of metallic salts of:

1.1.1 *Class A*—2-Ethyl hexanoic acids in petroleum spirits.

1.1.2 *Class B*—Naphthenic acids in petroleum spirits.

1.1.3 *Class C*—Neodecanoic acids in petroleum spirits.

1.1.4 *Class D*—Tall oil fatty acids in petroleum spirits.

1.1.5 *Class E*—Any of the above acids or acid blends, but containing additives that make the liquid drier water dispersible. Some other driers may also contain complexing agents.

1.1.6 *Class F*—Other acids and acid blends unidentified by their producers.

1.2 For specific hazard information and guidance, see the supplier's Material Safety Data Sheets for materials listed in this specification.

### 2. Referenced Documents

2.1 *ASTM Standards:*

D 564 Test Methods for Liquid Paint Driers<sup>2</sup>

D 1544 Test Method for Color of Transparent Liquids (Gardner Color Scale)<sup>2</sup>

D 1545 Test Method for Viscosity of Transparent Liquids

by Bubble Time Method<sup>3</sup>

2.2 *U.S. Federal Specification:*

PPP-C-2020 Chemicals, Liquid, Dry, and Paste: Packaging of<sup>4</sup>

### 3. Chemical and Physical Requirements

3.1 *Quantitative Requirements*—The drier shall conform to the quantitative requirements as specified in Table 1 for metallic content, color, and viscosity.

3.2 *Physical Appearance*—Each type of drier shall be a mobile liquid free of sediment and suspended matter and shall be stable and miscible with oil as listed in Test Methods D 564.

### 4. Significance and Use

4.1 This specification covers the general requirements for liquid paint driers used in paints, varnishes, enamels, and similar organic coatings.

4.2 The values listed should be considered as general guides to the character of the products, rather than reproducible constants.

### 5. Test Methods

5.1 The properties enumerated in this specification shall be determined in accordance with Test Methods D 564, except as otherwise provided in this specification.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.35 on Solvents, Plasticizers, and Chemical Intermediates.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 06.01.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 06.03.

<sup>4</sup> Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

TABLE 1 Typical Requirements of Liquid Paint Driers<sup>A</sup>

Class	Metal	Metal Concentration, %		Nonvolatile Matter, %	Typical Specific Gravity 25/25°C		Color, <sup>B</sup> Gardner (Test Method D 1544)	G-H Viscosity (Test Method D 1545)
		min	max		min	max		
A	Calcium	3.9	4.1	50	0.884 <sup>C</sup>	—	3	A
A	Calcium	4.9	5.1	60	0.894	0.912	5	C
B	Calcium	3.9	4.1	70	0.902	0.937	10	D
B	Calcium	4.9	5.1	85	0.932	0.970	11	T
C	Calcium	4.9	5.1	46	0.888	—	2	A
D	Calcium	3.9	4.1	66	0.890	0.918	9	B
E	Calcium	3.9	4.1	63	0.905	0.930	8	G
E	Calcium	5.9	6.1	76	0.922	0.960	5	N
F	Calcium	3.9	4.1	50	0.850	0.884	3	A