



Designation: D 3225 – 73 (Reapproved 1995)^{ε1}

Standard Specification for Low-Boiling Hydrocarbon Solvent for Oil-Borne Preservatives¹

This standard is issued under the fixed designation D 3225; 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 (ε) indicates an editorial change since the last revision or reapproval.

^{ε1} NOTE—Section 6 was added editorially in July 1995.

1. Scope

1.1 This specification covers low-boiling hydrocarbon systems for preparing solutions of oil-borne preservatives.

2. Referenced Documents

2.1 ASTM Standards:

- D 56 Test Method for Flash Point by Tag Closed Tester²
- D 86 Test Method for Distillation of Petroleum Products²
- D 88 Test Method for Saybolt Viscosity³
- D 287 Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)²
- D 445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)²
- D 484 Specification for Hydrocarbon Dry-cleaning Solvents^{2a}
- D 1500 Test Method for ASTM Color of Petroleum Products (ASTM Color Scale)²
- D 2606 Test Method for Solubility of Pentachlorophenol in Heavy Hydrocarbon Solvents⁴
- D 3224 Test Method for Water Solubility of Auxiliary Solvent for Wood-Preserving Solutions⁴

3. Properties

3.1 Hydrocarbon solvent for preparing solutions of pentachlorophenol shall be composed of the following solvents conforming to the respective indicated requirements:

Gravity, min deg API at 60°F (15.6°C)	40.9
Specific gravity, max at 60°F (15.6°C)	0.820
Color, max	1
Flash, point, min, TCC, °F	80
Distillation, °F	

IBP, max	360
EP, max ⁴	415
Doctor test	negative

⁴ For treatment of lumber, the distillation EP shall be 375°F (190°C) max.

4. Auxiliary Solvent

4.1 An auxiliary or cosolvent shall be used with the low-boiling hydrocarbon solvent and pentachlorophenol, but shall not exceed 10 % of the total volume of the combined solvents. The combination of the auxiliary solvent and lowboiling hydrocarbon solvent shall have the following properties:

Kinematic viscosity, max, cSt, at 100°F (38°C)	5.8
(Saybolt viscosity at 100°F, max, s)	45
Flash point, min, TCC, °F	80
Color (of auxiliary solvent), max	1
Solubility in water at 75°C (24°C), max, %	1.0
Solubility of water in solvent at 75°F (24°C), max, %	1.0

4.2 *Solubility for Pentachlorophenol*—The auxiliary solvent shall dissolve at least 50 % technical grade pentachlorophenol at 75°F (24°C).

4.3 *Antiblooming*—The auxiliary solvent shall have such properties and shall be used at such concentrations to prevent “blooming.” Blooming is defined as formation of visible penta crystals on any surface of the treated wood within a period of 2 days after completion of treatment.

4.4 For solubilized copper-8-quinolinolate and copper naphthenate solutions, the auxiliary solvent need not be used.

5. Test Methods

5.1 The sampling and requirements enumerated in this specification shall be determined in accordance with the following ASTM standards:

Property	ASTM Standard
API gravity, 60°F	D 287
Color	D 1500
Flash point, TCC	D 56
Distillation	D 86
Doctor test	D 484
Viscosity, Saybolt	D 88
Viscosity, kinematic	D 445
Solubility of pentachlorophenol	D 2606
Water solubility	D 3224

¹ This specification is under the jurisdiction of ASTM Committee D-7 on Wood and is the direct responsibility of Subcommittee D07.06 on Treatments for Wood Products.

Current edition approved July 27, 1973. Published October 1973.

² *Annual Book of ASTM Standards*, Vol 05.01.

^{2a} Discontinued; see *1983 Annual Book of ASTM Standards*, Vol 06.03.

³ *Annual Book of ASTM Standards*, Vol 04.04.

⁴ *Annual Book of ASTM Standards*, Vol 04.10.



6. Keywords

6.1 hydrocarbon; oil-borne; preservative; solvent

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