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## Standard Specification for Propylene Glycol and Dipropylene Glycol<sup>1</sup>

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### 1. Scope

1.1 This specification covers propylene glycol and dipropylene glycol for use in the preparation of surface coatings.

1.2 For specific hazard information and guidance, see the supplier's Material Safety Data Sheets.

### 2. Referenced Documents

#### 2.1 ASTM Standards:

D 4052 Test Method for Density and Relative Density of Liquids by Digital Density Meter<sup>2</sup>

E 202 Test Methods for Analysis of Ethylene Glycols and Propylene Glycols<sup>3</sup>

E 300 Practice for Sampling Industrial Chemicals<sup>3</sup>

#### 2.2 U.S. Federal Specification:

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

### 3. Properties

3.1 Propylene glycol or dipropylene glycol shall conform to the respective properties shown in Table 1.

### 4. Sampling

4.1 The material shall be sampled in accordance with Practice E 300.

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D-1 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 05.02.

<sup>3</sup> Annual Book of ASTM Standards, Vol 15.05.

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

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**TABLE 1 Requirements for Propylene Glycol and Dipropylene Glycol**

Property	Propylene Glycol	Dipropylene Glycol
Apparent specific gravity		
20/20°C	1.0375 to 1.0390	1.020 to 1.025
25/25°C	1.0351 to 1.0366	1.016 to 1.021
Color, Pt-Co units, max	15	15
Distillation range, 760 mmHg		
Initial Boiling Point, °C min	185	228
Dry point, °C, max	190	236
Water, wt %, max	0.2	0.2
Acidity, as acetic acid, wt %, max	0.005	0.01
Propylene glycol, wt %, max	NA <sup>A</sup>	1.0
Dipropylene glycol, wt %, max	1.0	NA <sup>A</sup>
Tripropylene glycol, wt %, max	NA <sup>A</sup>	1.0
Iron, ppm, max	0.5	1.0

<sup>A</sup> NA = not applicable.

### 5. Test Methods

5.1 The properties enumerated in this specification shall be determined in accordance with Test Methods E 202.

5.2 The apparent specific gravity can also be determined in accordance with Test Method D 4052.

### 6. Packaging and Package Marking

6.1 Package size shall be agreed upon between the purchaser and the supplier.

6.2 Packaging shall conform to applicable carrier rules and regulations or when specified shall conform to Fed. Spec. PPP-C-2020.

### 7. Keywords

7.1 dipropylene glycol; propylene glycol