



Standard Specification for Vapor-Degreasing Grade and General Grade *normal*-Propyl Bromide¹

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1. Scope

1.1 This specification covers vapor-degreasing grade and general solvent grade *normal*-propyl bromide (*nPB*). High-purity grades of *nPB* are available but should not be evaluated by this specification.

1.2 Blends and azeotropic mixtures of *nPB* for vapor-degreasing and general solvent grades should be blended from *nPB* meeting this specification.

NOTE 1—Practices D 3844 and D 4276 and MNL2² provide additional important information on vapor degreasing and solvent properties.

2. Referenced Documents

2.1 ASTM Standards:

- D 1078 Test Method for Distillation Range of Volatile Organic Liquids³
- D 2108 Test Method for Color of Halogenated Organic Solvents and Their Admixtures (Platinum-Cobalt Scale)⁴
- D 2109 Test Methods for Nonvolatile Matter in Halogenated Organic Solvents and Their Admixtures⁴
- D 2111 Test Methods for Specific Gravity of Halogenated Organic Solvents and Their Admixtures⁴
- D 2942 Test Method for Total Acid Acceptance of Halogenated Organic Solvents (Nonreflux Method)⁴
- D 2943 Test Method for Aluminum Scratch of 1,1,1-Trichloroethane⁴
- D 2989 Test Method for Acidity-Alkalinity of Halogenated

- Organic Solvents and Their Admixtures⁴
- D 3401 Test Methods for Water in Halogenated Organic Solvents and Their Admixtures⁴
- D 3741 Test Method for Appearance of Admixtures Containing Halogenated Organic Solvents⁴
- D 3844 Practice for Labeling Halogenated Hydrocarbon Solvent Containers⁴
- D 4276 Practice for Confined Area Entry⁴
- D 4755 Test Method for Free Halogens in Halogenated Organic Solvents and Their Admixtures⁴
- D 6505 Test Method for Assay of *normal*-Propyl Bromide Content⁴

2.2 Other Documents:⁵

- 29 CFR 1919.1200 Department of Labor, OSHA Regulations on Hazard Communications⁵
- 49 CFR 100 to 199 Department of Transportation Hazardous Materials Regulations

3. Properties

3.1 Vapor degreasing grade and general solvent grade *normal*-propyl bromide shall conform to the requirements prescribed in Table 1.

4. Packaging

4.1 Industrial or commercial quantities shall be packaged and labeled in accordance with DOT regulations as found in 49 CFR 100 to 199 and state and local regulations, and with OSHA Regulations found in 29 CFR 1910.1200.

5. Keywords

5.1 *normal*-propyl bromide; 1-bromopropane; vapor-degreasing solvent

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² *Manual on Vapor Degreasing, MNL2*, Third Edition, ASTM.

³ *Annual Book of ASTM Standards*, Vol 06.04.

⁴ *Annual Book of ASTM Standards*, Vol 15.05.

⁵ The *Code of Federal Regulations* may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

TABLE 1 Properties

Property	Specification	Test Method
Specific gravity, 25/25°C	1.320 to 1.350	D 2111
Distillation range (760 mm Hg)		D 1078
Initial boiling point, °C, min	70.0	
Dry point, °C, max	88.0	
Acidity (as HCl), weight %, max	0.0010	D 2989
Alkalinity (as NaOH), weight %, max	0.020	D 2989
Water, weight %, max	0.0150	D 3401
Appearance	clear and free from suspended matter	D 3741
Color, APHA, max	15	D 2108
Free halogen	passes test	D 4755
Nonvolatile residue, weight %, max	0.0010	D 2109
Acid acceptance (as NaOH), weight %, min	0.15	D 2942
Aluminum scratch	passes test	D 2943
<i>normal</i> -propyl bromide content, weight %, min	93	GC
<i>iso</i> -propyl bromide content, weight %, max	0.1	GC

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