



Standard Specification for Acrylonitrile¹

This standard is issued under the fixed designation E 1785; 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.

1. Scope

1.1 This specification covers acrylonitrile that is suitable for a wide variety of industrial applications.

1.2 The following safety hazards caveat pertains only to the test methods portion, Section 5, described in this specification: *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

1.3 Review the current Materials Safety Data Sheets (MSDS) for detailed information concerning toxicity, first aid procedures, handling and safety precautions.

2. Referenced Documents

2.1 ASTM Standards:

- E 300 Practice for Sampling Industrial Chemicals²
- E 1178 Test Methods for Analysis of Acrylonitrile²
- E 1784 Test Method for Total Peroxides in Acrylonitrile²

¹ This specification is under the jurisdiction of ASTM Committee E-15 on Industrial Chemicals and is the direct responsibility of Subcommittee E15.80 on Acrylonitrile Specification.

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² *Annual Book of ASTM Standards*, Vol 15.05.

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E 1788 Test Method for Acidity in Acrylonitrile²

3. Chemical and Physical Requirements

3.1 Acrylonitrile shall conform to the following chemical and physical requirements:

Requirement		ASTM Test Method
Color, platinum-cobalt (APHA)	10, max	E 1178
Acetone, ppm (wt/wt)	300, max	pending
Acetonitrile, ppm (wt/wt)	500, max	pending
Acidity, as acetic acid, ppm (wt/wt)	20, max	E 1788
Aldehydes, as ACH, ppm (wt/wt)	50, max	pending
Hydrogen cyanide, ppm (wt/wt)	5, max	E 1178
Peroxides, ppm (wt/wt)	0.2, max	E 1784
Water, %, by weight	0.2–0.5	E 1178
MEHQ (Inhibitor), ppm (wt/wt)	35.0–50.0	E 1178
Acrolein, ppm (wt/wt)	10, max	pending

4. Sampling

4.1 Sample acrylonitrile in accordance with the appropriate sections of Practice E 300 for liquid samples.

5. Test Methods

5.1 Analyze each composite sample in accordance with the test methods specified in 3.1.

6. Keywords

6.1 acrylonitrile