



## Standard Specification for Sodium Chloride<sup>1</sup>

This standard is issued under the fixed designation D 632; 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 reappraisal. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reappraisal.

### 1. Scope

1.1 This specification covers sodium chloride intended for use as a deicer and for road construction or maintenance purposes.

1.2 The values stated as SI units are to be regarded as the standard.

1.3 For purposes of determining conformance to this specification, values for chemical analysis shall be rounded to the nearest 0.1 %, and values for grading shall be rounded to the nearest 1 %, in accordance with the rounding method in Practice E 29.

1.4 The text of this specification references notes and footnotes that provide explanatory material. These notes and footnotes shall not be considered as requirements of the specification.

1.5 The following precautionary caveat pertains only to the test method in Annex A1, of 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.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:

C 136 Test Method for Sieve Analysis of Fine and Coarse Aggregates<sup>2</sup>

C 670 Practice for Preparing Precision and Bias Statements for Test Methods for Construction Materials<sup>2</sup>

E 29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications<sup>3</sup>

E 287 Specification for Laboratory Glass Graduated Burets<sup>3</sup>

E 288 Specification for Laboratory Glass Volumetric Flasks<sup>3</sup>

E 534 Test Method for Chemical Analysis of Sodium Chloride<sup>4</sup>

### 3. Classification

3.1 This specification covers sodium chloride obtained from natural deposits (rock salt) or produced by man (evaporated, solar, other) and recognizes two types and two grades as follows:

3.1.1 *Type I*—Used primarily as a pavement deicer or in aggregate stabilization.

3.1.1.1 *Grade 1*—Standard grading (Note 1).

3.1.1.2 *Grade 2*—Special grading (Note 1).

3.1.2 *Type II*—Used in aggregate stabilization or for purposes other than deicing.

NOTE 1—Grade 1 provides a particle grading for general application, and has been found by latest research to be most effective for ice control and skid resistance under most conditions. Grade 2 is the grading typical of salt produced in the Western United States and is available in states of the Rocky Mountains Region and west, which may be preferred by purchasers in that area.

### 4. Chemical Requirements

4.1 The sodium chloride shall conform to the following requirement for chemical composition, except for the tolerance stated in 6.1 and 6.2:

Sodium chloride (NaCl), min, % 95.0

### 5. Physical Requirements

#### 5.1 Grading:

5.1.1 *Type I*—The grading of Type I sodium chloride, when tested by means of laboratory sieves conforming to Specification E 11, shall conform to the following requirements for particle size distribution, except for the tolerance stated in 6.1 and 6.1.1:

Sieve Size	Mass % Passing	
	Grade 1	Grade 2
19.0 mm (¾ in.)	...	100
12.5 mm (½ in.)	100	...
9.5 mm (⅜ in.)	95 to 100	...
4.75 mm (No. 4)	20 to 90	20 to 100
2.36 mm (No. 8)	10 to 60	10 to 60
600 µm (No. 30)	0 to 15	0 to 15

5.1.2 *Type II*—The grading of Type II sodium chloride shall conform to the grading requirements imposed or permitted by the purchaser under conditions of the intended use.

### 6. Permissible Variations

6.1 In the case of sodium chloride sampled after delivery to the purchaser, tolerances from the foregoing specified values

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D-4 on Road and Paving Materials and is the direct responsibility of Subcommittee D04.31 on Calcium and Sodium Chlorides and Other Deicing Materials.

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<sup>2</sup> *Annual Book of ASTM Standards*, Vol 04.02.

<sup>3</sup> *Annual Book of ASTM Standards*, Vol 14.02.

<sup>4</sup> *Annual Book of ASTM Standards*, Vol 15.05.