
Standard Specification for Sodium Chloride

AASHTO Designation: M 143-14 (2022)

Technically Revised: 2014

Reviewed but Not Updated: 2022

Editorially Revised: 2022

Technical Subcommittee: 4c, Markings and Coatings



**American Association of State Highway and Transportation Officials
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1. SCOPE

- 1.1. This specification covers sodium chloride used for pre-treatment of and deicing road surfaces and for road construction and maintenance applications. Other uses may also be appropriate.
- 1.2. This specification is applicable for orders in either SI units or inch-pound units. SI and inch-pound units are not necessarily equivalent. Inch-pound units are shown in brackets in the text for clarity, but they are applicable values when the material is ordered.
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2. REFERENCED DOCUMENTS

- 2.1. *AASHTO Standard:*
- [T 27](#), Sieve Analysis of Fine and Coarse Aggregates
- 2.2. *ASTM Standards:*
- [D1429](#), Standard Test Methods for Specific Gravity of Water and Brine
 - [E534](#), Standard Test Methods for Chemical Analysis of Sodium Chloride
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3. CLASSIFICATION

- 3.1. This specification covers sodium chloride mined from natural deposits, commonly known as rock salt, as well as evaporated from naturally occurring or hydraulically produced brine. The following two types and grades are commonly recognized:
- 3.1.1. *Type I*—Used for deicing pavement surfaces or in aggregate stabilization:
- 3.1.1.1. *Grade 1*—Standard grading for general use as described in Section 6.1.
- 3.1.1.2. *Grade 2*—Special grading as described in Section 6.1.
- 3.1.2. *Type II*—Used in aggregate stabilization and applications other than deicing pavements.
- 3.2. This specification also covers sodium chloride used in the form of brine defined as a liquid saturated with chloride.

4. ORDERING INFORMATION

- 4.1. *Orders for sodium chloride under this specification shall include the following information as necessary to adequately describe the desired product:*
- 4.1.1. AASHTO designation and year of issue;
- 4.1.2. Type and grade (if appropriate) of product required;
- 4.1.3. Quantity required;
- 4.1.4. Delivery location;
- 4.1.5. Special requirements (including special grading requirements, packaging size, marking requirements, and special shipping instructions), if required; and
- 4.1.6. Testing, lot size, and certification, if required.

5. CHEMICAL REQUIREMENTS

- 5.1. The chemical composition for the sodium chloride ordered shall conform to a minimum of 95 percent sodium chloride (NaCl).
- 5.2. A current Safety Data Sheet (SDS) is required for the sodium chloride ordered and, as appropriate, the current SDS for anticaking agents or other additives used is also required.
- 5.3. Brine shall be at a solution concentration of 23.3 percent NaCl by weight.
Note 1—Agencies may allow a variation of the required concentration when considering expected minimum roadway temperatures and performance needs based on the phase diagram shown in Figure X1.1.

6. PHYSICAL REQUIREMENTS

- 6.1. *Grading:*
- 6.1.1. *Type I*—The grading of Type I sodium chloride, when sampled at the point of delivery and tested in accordance with [T 27](#), shall conform to the requirements of Table 1.

Table 1—Grading Requirements

Sieve Size	% Passing	
	Grade 1	Grade 2
19.0 mm [$\frac{3}{4}$ in.]	—	100
12.5 mm [$\frac{1}{2}$ in.]	100	—
9.5 mm [$\frac{3}{8}$ in.]	95 to 100	—
4.75 mm [No. 4]	20 to 95	20 to 100
2.36 mm [No. 8]	10 to 65	10 to 65
600 μ m [No. 30]	0 to 20	0 to 20

- 6.1.2. *Type II*—The grading of Type II sodium chloride shall conform to the requirements of the purchaser to meet the needs for the intended use as noted in Section 4.1.