



## Designation: D98 – 15 (Reapproved 2021)

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

This standard is issued under the fixed designation D98; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

*This standard has been approved for use by agencies of the U.S. Department of Defense.*

## 1. Scope

1.1 This specification covers calcium chloride, technical grade, typically used for, but not limited to, dust control, stabilization, ice/snow removal, other road-conditioning purposes, acceleration of the set of concrete, and as a desiccant.

1.2 The values stated in 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 E29.

1.4 The text of this standard references notes and footnotes, which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the standard.

1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

## 2. Referenced Documents

### 2.1 ASTM Standards:<sup>2</sup>

**D345 Test Method for Sampling and Testing Calcium Chloride for Roads and Structural Applications** (Withdrawn 2019)<sup>3</sup>

**E449 Test Methods for Analysis of Calcium Chloride**

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D04 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> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [service@astm.org](mailto:service@astm.org). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).

### 2.2 Federal Standards:<sup>4</sup>

**UU-S-48 Sack, Shipping, Paper**

**PPP-B-35 Bag, Textile, Shipping, Burlap, Cotton, and Waterproof Laminated**

**PPP-C-186 Containers, Packaging and Packing for Drugs, Chemicals, and Pharmaceuticals**

**PPP-D-723 Drum, Fiber**

**Fed. Std. No. 123 Marking for Shipment (Civil Agencies)**

### 2.3 Military Standards:<sup>4</sup>

**MIL-STD-105 Sampling Procedures and Tables for Inspection by Attributes**

**MIL-STD-129 Marking for Shipment and Storage**

### 2.4 American Trucking Associations, Inc.:<sup>5</sup>

**National Motor Freight Classification**

### 2.5 Uniform Classification Committee:<sup>6</sup>

**Uniform Freight Classification**

## 3. Classification

3.1 *Type*—Two types of calcium chloride are covered as follows:

3.1.1 *Type S (Solid)*—Flake, pellet, or granular calcium chloride ( $\text{CaCl}_2$ ) in varying concentrations.

3.1.2 *Type L (Liquid)*—Water solutions of calcium chloride in varying concentrations.

3.2 *Concentrations*—Concentrations of Type S and Type L calcium chloride shall be expressed as a percentage of the total. Type S shall be further expressed as Grades as in 3.3 and in accordance with the chemical requirements of this specification.

3.2.1 The concentrations of Type S (solid) calcium chloride are 77, 90, and 94 % minimum.

3.2.2 The concentrations of Type L (liquid) calcium chloride shall be specified by the purchaser (see **Note 1**).

**NOTE 1**—Typical concentrations vary from 28 to 42 %.

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

<sup>5</sup> Available from American Trucking Association, Inc., 2200 Mill Rd., Alexandria, VA 22314.

<sup>6</sup> Available from Uniform Classification Committee, 212 Union Station, Chicago, IL 60606.