

STATE OF NORTH CAROLINA

Department of Transportation

Invitation for Bid #: 54-JP-10202025

Calcium Chloride (Bulk)

Date Issued: 1/7/2026

Bid Opening Date: 1/20/2026

At 2:00 PM ET

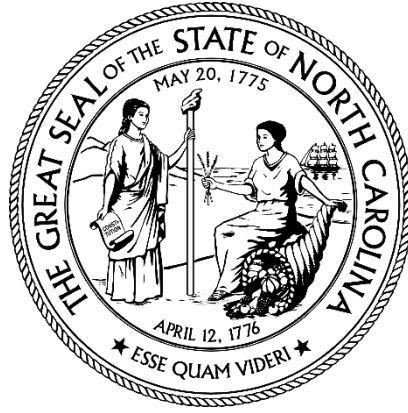
Direct all inquiries concerning this IFB to:

Joanna Priestley

Contract Specialist II

Email: jpriestley@ncdot.gov

Phone: 919-707-2628



STATE OF NORTH CAROLINA

Invitation for Bid

54-JP-10202025

For internal State agency processing, including tabulation of bids, provide your company's eVP (Electronic Vendor Portal) Number. Pursuant to G.S. 132-1.10(b) this identification number shall not be released to the public. **This page will be removed and shredded, or otherwise kept confidential**, before the procurement file is made available for public inspection.

**This page shall be filled out and returned with your bid.
Failure to do so shall be sufficient cause to reject your bid.**

Vendor Name

Vendor eVP #

Note: For a contract to be awarded to you, your company (you) must be a North Carolina registered Vendor in good standing. You must enter the Vendor number assigned through eVP (Electronic Vendor Portal). If you do not have a Vendor number, register at <https://evp.nc.gov/SignIn>

Electronic responses ONLY will be accepted for this solicitation.

STATE OF NORTH CAROLINA
Department of Transportation

| | |
|--|--|
| Refer <u>ALL</u> Inquiries regarding this IFB to: Joanna Priestley 919-707-2628 jpriestley@ncdot.gov | Invitation for Bids # 54-JP-10202025 |
| | Bids will be publicly opened: January 20, 2026, at 2:00 PM ET |
| Using Agency: Transportation | Commodity No. and Description: NIGP 774528 Calcium Chloride, Liquid UNSPSC 301217 Road and Railroad Construction |
| Requisition No.: N/A | |

EXECUTION

In compliance with this Invitation for Bids (IFB), and subject to all the conditions herein, the undersigned Vendor offers and agrees to furnish and deliver any or all items upon which prices are bid, at the prices set opposite each item within the time specified herein.

By executing this bid, the undersigned Vendor understands that false certification is a Class I felony and certifies that:

- this bid is submitted competitively and without collusion (G.S. 143-54),
- that none of its officers, directors, or owners of an unincorporated business entity has been convicted of any violations of Chapter 78A of the General Statutes, the Securities Act of 1933, or the Securities Exchange Act of 1934 (G.S. 143-59.2), and
- it is not an ineligible Vendor as set forth in G.S. 143-59.1.

Furthermore, by executing this bid, the undersigned certifies to the best of Vendor's knowledge and belief, that:

- it and its principals are not presently debarred, suspended, proposed for debarment, declared ineligible or voluntarily excluded from covered transactions by any Federal or State department or agency.

As required by G.S. 143-48.5, the undersigned Vendor certifies that it, and each of its sub-Contractors for any Contract awarded as a result of this IFB, complies with the requirements of Article 2 of Chapter 64 of the NC General Statutes, including the requirement for each employer with more than 25 employees in North Carolina to verify the work authorization of its employees through the federal E-Verify system.

As required by Executive Order 24 (2017), the undersigned Vendor certifies will comply with all Federal and State requirements concerning fair employment and that it does not and will not discriminate, harass, or retaliate against any employee in connection with performance of any Contract arising from this solicitation.

G.S. 133-32 and Executive Order 24 (2009) prohibit the offer to, or acceptance by, any State Employee associated with the preparing plans, specifications, estimates for public Contract; or awarding or administering public Contracts; or inspecting or supervising delivery of the public Contract of any gift from anyone with a Contract with the State, or from any person seeking to do business with the State. By execution of this bid response to the IFB, the undersigned certifies, for Vendor's entire organization and its employees or agents, that Vendor are not aware that any such gift has been offered, accepted, or promised by any employees or agents of Vendor's organization.

By executing this bid, Vendor certifies that it has read and agreed to the **INSTRUCTION TO VENDORS** and the **NORTH CAROLINA GENERAL TERMS AND CONDITIONS incorporated herein**. These documents can be accessed from the ATTACHMENTS page within this document.

Failure to execute/sign bid prior to submittal shall render bid invalid and it WILL BE REJECTED. Late bids cannot be accepted.

| | | |
|---|-------------------|--------------------|
| COMPLETE/FORMAL NAME OF VENDOR: | | |
| STREET ADDRESS: | P.O. BOX: | ZIP: |
| CITY & STATE & ZIP: | TELEPHONE NUMBER: | TOLL FREE TEL. NO: |
| PRINCIPAL PLACE OF BUSINESS ADDRESS IF DIFFERENT FROM ABOVE (SEE INSTRUCTIONS TO VENDORS ITEM #21): | | |
| PRINT NAME & TITLE OF PERSON SIGNING ON BEHALF OF VENDOR: | | |
| VENDOR'S AUTHORIZED SIGNATURE: | DATE: | E-MAIL: |

Bid Number: 54-JP-10202025 Calcium Chloride

Vendor: _____

VALIDITY PERIOD

Offer shall be valid for at least ninety (90) days from date of bid opening, unless otherwise stated here: _____ days, or if extended by mutual agreement of the parties. Any withdrawal of this offer shall be made in writing, effective upon receipt by the agency issuing this IFB.

BID ACCEPTANCE

If your bid is accepted, all provisions of this IFB, along with the written results of any negotiations, shall constitute the written agreement between the parties ("Contract"). The NORTH CAROLINA GENERAL TERMS AND CONDITIONS are incorporated herein and shall apply. Depending upon the Goods or Services being offered, other terms and conditions may apply, as mutually agreed.

FOR STATE USE ONLY: Offer accepted and Contract awarded this ____ day of _____, 2026, as indicated
on the attached certification, by _____
(Authorized Representative of North Carolina department of Transportation)

TABLE OF CONTENTS

1.0 PURPOSE AND BACKGROUND 5

 1.1 CONTRACT TERM 5

2.0 GENERAL INFORMATION 5

 2.1 INVITATION FOR BID DOCUMENT 5

 2.2 E-PROCUREMENT FEE 5

 2.3 NOTICE TO VENDORS REGARDING IFB TERMS AND CONDITIONS..... 5

 2.4 IFB SCHEDULE 6

 2.5 BID QUESTIONS..... 6

 2.6 BID SUBMITTAL..... 6

 2.7 BID CONTENTS 7

 2.8 ALTERNATE BIDS 7

 2.9 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS 8

3.0 METHOD OF AWARD AND BID EVALUATION PROCESS 8

 3.1 METHOD OF AWARD 8

 3.2 CONFIDENTIALITY AND PROHIBITED COMMUNICATIONS DURING EVALUATION 8

 3.3 BID EVALUATION PROCESS 9

 3.4 PERFORMANCE OUTSIDE THE UNITED STATES..... 9

 3.5 INTERPRETATION OF TERMS AND PHRASES..... 10

4.0 REQUIREMENTS..... 10

 4.1 PRICING..... 10

 4.2 PRODUCT IDENTIFICATION 10

 4.3 TRANSPORTATION AND IDENTIFICATION 10

 4.4 DELIVERY 10

 4.5 DESCRIPTIVE LITERATURE AND SAFETY DATA SHEET 11

 4.6 HUB PARTICIPATION 11

 4.7 REFERENCES..... 11

 4.8 VENDOR’S REPRESENTATIONS..... 11

 4.9 FINANCIAL STABILITY 11

 4.10 AGENCY INSURANCE REQUIREMENTS MODIFICATION 11

4.11 SUBCONTRACTORS..... 12

4.12 SECRETARY OF STATE REGISTRATION..... 12

 4.13 SUSTAINABILITY EFFORTS 12

5.0 PRODUCT SPECIFICATIONS 12

 5.1 SPECIFICATIONS 12

 5.2 DEVIATIONS 13

6.0 CONTRACT ADMINISTRATION 13

 6.1 CONTRACT MANAGER AND CUSTOMER SERVICE..... 13

 6.2 CONTINUOUS IMPROVEMENT..... 13

 6.3 ACCEPTANCE OF WORK 13

 6.4 INVOICES..... 14

 6.5 DISPUTE RESOLUTION..... 14

 6.6 PRODUCT RECALL 14

 6.7 PRICE ADJUSTMENTS 14

6.8 CONTRACT CHANGES..... 15

6.9 ESTIMATED QUANTITIES..... 15

7.0 ATTACHMENTS..... 16

ATTACHMENT A: PRICING FORM 16

ATTACHMENT B: INSTRUCTIONS TO VENDORS 17

ATTACHMENT C: NORTH CAROLINA GENERAL TERMS & CONDITIONS..... 17

ATTACHMENT D: HUB SUPPLEMENTAL VENDOR INFORMATION 17

ATTACHMENT E: CUSTOMER REFERENCE FORM 17

ATTACHMENT F: LOCATION OF WORKERS UTILIZED BY VENDOR 17

ATTACHMENT G: CERTIFICATION OF FINANCIAL CONDITION 17

ATTACHMENT H: VENDOR REQUEST FOR EO50 PRICE-MATCHING..... 17

ATTACHMENT J: AASHTO M144-14 STANDARD SPECIFICATIONS 18

ATTACHMENT K: ASTM D98 STANDARD SPECIFICATIONS 22

1.0 PURPOSE AND BACKGROUND

The intent is this Invitation for Bid (IFB) is to establish a contract to provide Calcium Chloride to the North Carolina Department of Transportation (NCDOT), Division of Highways. The Calcium Chloride specified herein will primarily be used to reduce the adhesion of snow and ice to road surfaces during the winter months.

The intent of this solicitation is to award an Agency Specific Term Contract.

To comply with Governor Cooper's Executive Order 80 (October 2018), North Carolina's Commitment to Address Climate Change and Transition to a Clean Energy Economy, the contract resulting from this solicitation intends to *provide sustainability features in accordance with industry standards*.

1.1 CONTRACT TERM

The Contract shall have an initial term of three (3) years, beginning on the date of final Contract execution (the "Effective Date") In addition, and with the Vendor's concurrence, the State reserves the right to extend a contract term after the last active term.

Bids shall be submitted in accordance with the terms and conditions of this IFB and any addenda issued hereto.

2.0 GENERAL INFORMATION

2.1 INVITATION FOR BID DOCUMENT

The IFB is comprised of the base IFB document, any attachments, and any addenda released before Contract award, which are incorporated herein by reference.

2.2 E-PROCUREMENT FEE

ATTENTION: The E-Procurement fee may apply to this solicitation. See paragraph entitled ELECTRONIC PROCUREMENT of the North Carolina General Terms and Conditions.

General information on the E-Procurement Services can be found at: <http://eprocurement.nc.gov/>.

2.3 NOTICE TO VENDORS REGARDING IFB TERMS AND CONDITIONS

It shall be the Vendor's responsibility to read the Instructions to Vendors, the North Carolina General Terms and Conditions, all relevant exhibits and attachments, and any other components made a part of this IFB and comply with all requirements and specifications herein. Vendors also are responsible for obtaining and complying with all Addenda and other changes that may be issued in connection with this IFB.

If Vendors have questions, issues, or exceptions regarding any component within this IFB, those must be submitted as questions in accordance with the instructions in the BID QUESTIONS Section. If the State determines that any changes will be made as a result of the questions asked, then such decisions will be communicated in the form of an IFB addendum. The State may also elect to leave open the possibility for later negotiation of specific provisions of the Contract that have been addressed during the question-and-answer period, prior to contact award.

Other than through this process or negotiation under 01 NCAC 05B.0503, the State rejects and will not be required to evaluate or consider any additional or modified terms and conditions submitted with Vendor's bid. This applies to any language appearing in or attached to the document as part of the Vendor's bid that purports to vary any terms and conditions or Vendors' instructions herein or to render the bid non-binding or subject to further negotiation. Vendor's bid shall constitute a firm offer that shall be held open for the period required herein ("Validity Period" above).

The State may exercise its discretion to consider Vendor proposed modifications. By execution and delivery of this IFB response, the Vendor agrees that any additional or modified terms and conditions, whether submitted purposely or inadvertently, shall have no force or effect, and will be disregarded unless expressly agreed upon through negotiations and incorporated by way of a Best and Final Offer (BAFO). Noncompliance with, or any attempt to alter or delete, this paragraph shall constitute sufficient grounds to reject Vendor's bid as non-responsive.

2.4 IFB SCHEDULE

The table below shows the *intended* schedule for this IFB. The State will make every effort to adhere to this schedule.

| Event | Responsibility | Date and Time |
|---|----------------|----------------------------------|
| Issue IFB | State | January 7, 2026 |
| Submit Written Questions | Vendor | January 12, 2026, by 12:00 PM ET |
| Submit Bids | Vendor | January 20, 2026, at 2:00 PM ET |
| Contract Award | State | ASAP |
| <p>Public bid opening for this solicitation will be conducted via conference call.</p> <p>Vendors may use the links or call-in number below to join the bid opening scheduled for:</p> <p><u>1/20/2026, at 2:00 PM EST.</u></p> <p>MICROSOFT TEAMS MEETING</p> <p>Join On Your Computer, Mobile App or Device.</p> <p><u>JOIN THE MEETING NOW</u></p> <p>Meeting ID: 277 245 490 777 90</p> <p>Passcode: DV93Li7P</p> | | |
| <p>Dial-in by phone.</p> <p><u>+1 984-204-1487,, 179642525#</u> United States, Raleigh</p> <p>Phone Conference ID: 179 642 525#</p> <p>Join on a video conferencing device.</p> <p>Tenant key: <u>ncgov@m.webex.com</u></p> <p>Video ID: 112 237 453 9</p> | | |

2.5 BID QUESTIONS

Upon review of the IFB documents, Vendors may have questions to clarify or interpret the IFB in order to submit the best bid possible. To accommodate the Bid Questions process, Vendors shall submit any such questions by the “Submit Written Questions” date and time provided in the IFB SCHEDULE Section above, unless modified by Addendum.

Written questions shall be e-mailed to jlpriestley@ncdot.gov by the date and time specified above. Vendors will enter “IFB # 54-JP-10202025 Questions” as the subject for the email. Question submittals will include a reference to the applicable IFB section and be submitted in a format shown below:

| Reference | Vendor Question |
|--------------------------|----------------------|
| IFB Section, Page Number | Vendor question ...? |

Questions received prior to the submission deadline date, the State’s response, and any additional terms deemed necessary by the State will be posted in the form of an addendum to *the electronic Vendor Portal (eVP)*, <https://evp.nc.gov>, and shall become an Addendum to this IFB. No information, instruction or advice provided orally or informally by any State personnel, whether made in response to a question or otherwise in connection with this IFB, shall be considered authoritative or binding. Vendors shall rely *only* on written material contained in an Addendum to this IFB.

2.6 BID SUBMITTAL

IMPORTANT NOTE: This is an absolute requirement. Vendor shall bear the risk of late submission due to unintended or unanticipated delay. It is the Vendor’s sole responsibility to ensure its bid has been received as described in this IFB by the specified time and date of opening. The date and time of receipt will be marked on each bid when received. Any bid or portion thereof received after the bid submission deadline will be rejected.

All bid responses shall be submitted electronically via the electronic Vendor Portal (eVP). Additional information can be found at the eVP updates for Vendors link: <https://eprocurement.nc.gov/news-events/evp-updates-vendors>.

If confidential and proprietary information is included in the bid, also submit one (1) signed, REDACTED copy of the bid. Such information may include trade secrets defined by N.C. Gen. Stat. § 66-152 and other information

exempted from the Public Records Act pursuant to N.C. Gen. Stat. §132- 1.2. Vendor may designate information, Products, Services or appropriate portions of its response as confidential, consistent with and to the extent permitted under the statutes and rules set forth above. By so redacting any page, or portion of a page, the Vendor warrants that it has formed a good faith opinion, having received such necessary or proper review by counsel and other knowledgeable advisors, that the portions determined to be confidential and proprietary and redacted as such, meet the requirements of the Rules and Statutes set forth above. However, under no circumstances shall price information be designated as confidential.

If the Vendor does not provide a redacted version of the bid with its bid submission, the Department may release an unredacted version if a record request is received.

Failure to submit a bid in strict accordance with these instructions shall constitute sufficient cause to reject a Vendor's bid(s). Vendors are strongly encouraged to allow sufficient time to upload bids.

Critical updated information may be included in Addenda to this IFB. It is important that all Vendors responding on this IFB periodically check the State's eVP website for any Addenda that may be issued prior to the bid opening date. All Vendors shall be deemed to have read and understood all information in this IFB and all Addenda thereto.

2.7 BID CONTENTS

Vendors shall populate all attachments of this IFB that require the Vendor to provide information and include an authorized signature where requested. Failure to provide all required items, or Vendor's submission of incomplete items, may result in the State rejecting Vendor's bid, in the State's sole discretion

Vendor IFB responses shall include the following items and attachments, which shall be arranged in the following order:

- a) Completed and signed version of EXECUTION PAGES, along with the body of the IFB.
- b) Signed receipt pages of any addenda released in conjunction with this IFB, if required to be returned.
- c) Completed version of ATTACHMENT A: PRICING FORM
- d) Completed version of ATTACHMENT D: HUB SUPPLEMENTAL VENDOR INFORMATION
- e) Completed version of ATTACHMENT F: LOCATION OF WORKERS UTILIZED BY VENDOR
- f) Completed and signed version of ATTACHMENT G: CERTIFICATION OF FINANCIAL CONDITION
- g) Completed and signed version of ATTACHMENT H: VENDOR REQUEST FOR EO50 PRICE-MATCHING, if applicable

2.8 ALTERNATE BIDS

Unless provided otherwise in this IFB, Vendor may submit alternate bids for comparable Goods, various methods or levels of Service(s), or that propose different options. Alternate bids must specifically identify the IFB requirements and advantage(s) addressed by the alternate bid. Any alternate bid, in addition to the marking described above, must be clearly marked with the legend: "Alternate Bid # 54-JP-10202025". Each bid must be for a specific set of Goods and Services and must include specific pricing. If a Vendor chooses to respond with various offerings, each must be offered with a separate price and be contained in a separate bid. Each bid must be complete and independent of other bids offered.

2.9 DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

Relevant definitions for this IFB are provided in 01 NCAC 05A .0112 and in the Instructions to Vendors referenced below which are incorporated herein by this reference.

The following definitions, acronyms, and abbreviations are also relevant to this IFB:

AASHTO: American Association of State Highway and Transportation Officials

ASTM: American Society for Testing and Material

3.0 METHOD OF AWARD AND BID EVALUATION PROCESS

3.1 METHOD OF AWARD

North Carolina G.S. 143-52 provides a general list of criteria the State shall use to award contracts, as supplemented by the additional criteria herein. The Goods or Services being procured shall dictate the application and order of criteria; however, all award decisions shall be in the State's best interest.

All responsive bids will be reviewed, and award(s) will be based on the responsive bid(s) offering the lowest price that meets the specifications to include any required verifications set out herein, such as but not limited to past performance, references, and financial documents.

While the intent of this IFB is to award a Contract(s) to a single Vendor for all line items, the State reserves the right to make separate awards to different Vendors for one or more line items, to not award one or more line items or to cancel this IFB in its entirety without awarding a Contract, if it is considered to be most advantageous to the State to do so.

If a Vendor selected for award is determined by the State to be a non-resident of North Carolina, all responsive bids will be reviewed to determine if any of them were submitted by a North Carolina resident Vendor who requested an opportunity to match the price of the winning bid, pursuant to Executive Order #50 and G.S. 143-59 (for more information, please refer to ATTACHMENT H: VENDOR REQUEST FOR EXECUTIVE ORDER #50 PRICE MATCHING. If such bid(s) are identified, the State will then determine whether any such bid falls within the price-match range, and, if so, make a Contract award in accordance with the process that implements G.S. 143-59 and Executive Order #50.

The State reserves the right to waive any minor informality or technicality in bids received.

3.2 CONFIDENTIALITY AND PROHIBITED COMMUNICATIONS DURING EVALUATION

While this IFB is under evaluation, the responding Vendor, including any subcontractors and suppliers, is prohibited from engaging in conversations intended to influence the outcome of the evaluation. See Paragraph 29 of the Instructions To Vendors entitled COMMUNICATIONS BY VENDORS.

Each Vendor submitting a bid to this IFB, including its employees, agents, subcontractors, suppliers, subsidiaries and affiliates, is prohibited from having any communications with any person inside or outside the using agency; issuing agency; other government agency office or body (including the procurement lead named above, any department secretary, agency head, members of the General Assembly and Governor's office); or private entity, if the communication refers to the content of Vendor's bid or qualifications, the content of another Vendor's bid, another Vendor's qualifications or ability to perform a resulting contract, and/or the transmittal of any other communication of information that could be reasonably considered to have the effect of directly or indirectly influencing the evaluation of bids, the award of a contract, or both.

Any Vendor not in compliance with this provision shall be disqualified from evaluation and award. A Vendor's bid may be disqualified if its subcontractor and/or supplier engage in any of the foregoing communications during the time that the procurement is active (*i.e.*, the issuance date of the procurement until the date of contract award or cancellation of the procurement). Only those discussions, communications or transmittals of information authorized or initiated by the issuing agency for this IFB, or inquiries directed to the procurement lead named in this IFB regarding requirements of the IFB (prior to bid submission) or the status of the award (after submission) are excepted from this provision.

3.3 BID EVALUATION PROCESS

Only responsive submissions will be evaluated.

The State will conduct an evaluation of responsive Bids, as follows:

Bids will be received according to the method stated in the Bid Submittal section above.

All bids must be received by the issuing agency not later than the date and time specified in the IFB SCHEDULE Section above, unless modified by Addendum. Vendors are cautioned that this is a request for offers, not an offer or request to contract, and the State reserves the unqualified right to reject any and all offers at any time if such rejection is deemed to be in the best interest of the State.

At the date and time provided in the IFB SCHEDULE Section above, unless modified by Addendum, the bids from each responding Vendor will be opened publicly and all offers (except those that have been previously withdrawn, or voided bids) will be tabulated. The tabulation shall be made public at the time it is created. When negotiations after receipt of bids are authorized pursuant to G.S. 143-49 and 01 NCAC 05B.0503, only the names of offerors and the Goods and Services offered shall be tabulated at the time of opening. If negotiation is anticipated, cost and price shall become available for public inspection at the time of the award. Interested parties are cautioned that these costs and their components are subject to further evaluation for completeness and correctness and therefore may not be an exact indicator of a Vendor's pricing position.

At their option, the evaluators may request oral presentations or discussions with any or all Vendors for clarification or to amplify the materials presented in any part of the bid. Vendors are cautioned, however, that the evaluators are not required to request presentations or other clarification—and often do not. Therefore, all bids should be complete and reflect the most favorable terms available from the Vendor. Prices bid cannot be altered or modified as part of a clarification.

Bids will generally be evaluated, based on completeness, content, cost and responsibility of the Vendor to supply the requested Goods and Services. Specific evaluation criteria are listed in Section 3.1 METHOD OF AWARD.

Upon completion of the evaluation process, the State will make Award(s) based on the evaluation and post the award(s) to the State's eVP website under the IFB number for this solicitation. Award of a Contract to one Vendor does not mean that the other bids lacked merit, but that, all factors considered, the selected bid was deemed most advantageous and represented the best value to the State.

The State reserves the right to negotiate with one or more Vendors, or to reject all original offers and negotiate with one or more sources of supply that may be capable of satisfying the requirement, and in either case to require Vendor to submit a Best and Final Offer (BAFO) based on discussions and negotiations with the State.

3.4 PERFORMANCE OUTSIDE THE UNITED STATES

Vendor shall complete ATTACHMENT F: LOCATION OF WORKERS UTILIZED BY VENDOR. In addition to any other evaluation criteria identified in this IFB, the State may also consider, for purposes of evaluating proposed or actual contract performance outside of the United States, how that performance may affect the following factors to ensure that any award will be in the best interest of the State:

- a) Total cost to the State
- b) Level of quality provided by the Vendor
- c) Process and performance capability across multiple jurisdictions
- d) Protection of the State's information and intellectual property
- e) Availability of pertinent skills
- f) Ability to understand the State's business requirements and internal operational culture
- g) Particular risk factors such as the security of the State's information technology
- h) Relations with citizens and employees
- i) Contract enforcement jurisdictional issues

3.5 INTERPRETATION OF TERMS AND PHRASES

This IFB serves two functions: (1) to advise potential Vendors of the parameters of the solution being sought by the State; and (2) to provide (together with other specified documents) the terms of the Contract resulting from this procurement. The use of phrases such as “shall,” “must,” and “requirements” are intended to create enforceable contract conditions. In determining whether bids should be evaluated or rejected, the State will take into consideration the degree to which Vendors have proposed or failed to propose solutions that will satisfy the State’s needs as described in the IFB. Except as specifically stated in the IFB, no one requirement shall automatically disqualify a Vendor from consideration. However, failure to comply with any single requirement may result in the State exercising its discretion to reject a bid in its entirety.

4.0 REQUIREMENTS

This Section lists the requirements related to this IFB. By submitting a bid, the Vendor agrees to meet all stated requirements in this Section, as well as any other specifications, requirements, and terms and conditions stated in this IFB. If a Vendor is unclear about a requirement or specification, or believes a change in a requirement would allow for the State to receive a better bid, the Vendor is encouraged to submit these items in the form of a question during the question and answer period in accordance with the Bid Questions Section above.

4.1 PRICING

Bid price shall constitute the total cost to the State for delivery fully assembled and ready for use, including all applicable charges for shipping, delivery, handling, administrative and other similar fees. Complete ATTACHMENT A: PRICING FORM and include in Vendor’s response.

4.2 PRODUCT IDENTIFICATION

SUITABILITY FOR INTENDED USE

Vendors are requested to offer only items directly complying with the specifications herein or comparable items which will provide the equivalent capabilities, features and diversity called for herein. The State reserves the right to evaluate all bids for suitability for the required use and to award the one best meeting requirements and considered to be in the State’s best interest.

4.3 TRANSPORTATION AND IDENTIFICATION

The Vendor shall deliver Free-On-Board (FOB) Destination to any requested location within the State of North Carolina with all transportation costs and fees included in the total bid price.

When an order is placed using a purchase order, the purchase order number shall be shown on all packages and shipping manifests to ensure proper identification and payment of invoices. If an order is placed without using a purchase order, such as via phone, the Buyer’s name shall be shown on all packages. A complete packing list shall accompany each shipment. Vendors shall not ship any products until they have received an order.

Additionally, packages shall be marked and shipped in accordance with Section 10. PACKAGING AND MARKING of ATTACHMENT J: AASHTO M144-14 STANDARD SPECIFICATIONS and subsection 10.1 of ATTACHMENT K: ASTM D98 STANDARD SPECIFICATIONS.

4.4 DELIVERY

The Vendor shall deliver Free-On-Board (FOB) Destination to the following location(s):

All counties located within each of the fourteen (14) Highway Divisions.

Vendor should complete delivery within ten (10) consecutive calendar days after receipt of purchase order.

For completion by Vendor: Delivery will be made from _____ (city, state) within _____ consecutive calendar days after receipt of purchase order. Promptness of delivery may be used as a factor in the award criteria.

4.5 DESCRIPTIVE LITERATURE AND SAFETY DATA SHEET

DESCRIPTIVE LITERATURE AND SAFETY DATA SHEET

Descriptive Literature and Safety Data Sheets are not required prior to the bid opening; however, may be required at a later time. If requested, Vendor shall furnish the Descriptive Literature and Safety Data Sheets within five (5) consecutive calendar days after the request is made by the State. Failure to comply with this requirement shall be a sufficient basis for rejection of the bid without further consideration.

4.6 HUB PARTICIPATION

Pursuant to North Carolina General Statute G.S. 143-48, it is State policy to encourage and promote the use of small, minority, physically handicapped, and women contractors in purchasing Goods and Services. As such, this IFB will serve to identify those Vendors that are minority owned or have a strategic plan to support the State’s Historically Underutilized Business program by meeting or exceeding the goal of 10% utilization of diverse firms as 1st or 2nd tier subcontractors. Vendor shall complete ATTACHMENT D: HUB SUPPLEMENTAL VENDOR INFORMATION.

4.7 REFERENCES

References are not required prior to the bid opening; however, references may be required at a later time. If so requested, Vendor agrees to furnish at least three (3) references for which your company has provided substantially similar items to those offered in its bid response, using ATTACHMENT E: CUSTOMER REFERENCE FORM. The references must be received within five (5) consecutive calendar days after the request is made by the State. Failure to comply with this requirement shall be a sufficient basis for rejection of the bid without further consideration.

The State may contact these users to determine quality level of the offered equipment; as well as, but not limited to, user satisfaction with Vendor performance. Information obtained may be considered in the evaluation of the bid.

4.8 VENDOR’S REPRESENTATIONS

If the bid results in an award, Vendor agrees that it will not enter any agreement with a third party that may abridge any rights of the State under the Contract. If any Services, deliverables, functions, or responsibilities not specifically described in this solicitation are required for Vendor’s proper performance, provision and delivery of the Service and deliverables under a resulting Contract, or are an inherent part of or necessary sub-task included within such service, they will be deemed to be implied by and included within the scope of the contract to the same extent and in the same manner as if specifically described in the Contract. Unless otherwise expressly provided herein, Vendor will furnish all of its own necessary management, supervision, labor, facilities, furniture, computer and telecommunications equipment, software, supplies and materials necessary for the Vendor to provide and deliver the Services and/or other Deliverables.

4.9 FINANCIAL STABILITY

As a condition of contract award, the Vendor must certify that it has the financial capacity to perform and to continue to perform its obligations under the Contract; that Vendor has no constructive or actual knowledge of an actual or potential legal proceeding being brought against Vendor that could materially adversely affect performance of this Contract; and that entering into this Contract is not prohibited by any contract, or order by any court of competent jurisdiction

Each Vendor shall certify it is financially stable by completing the ATTACHMENT G: CERTIFICATION OF FINANCIAL CONDITION. The State is requiring this certification to minimize potential performance issues from contracting with a Vendor that is financially unstable. This Certification shall be deemed continuing, and from the date of the Certification to the expiration of the Contract, the Vendor shall notify the State within thirty (30) days of any occurrence or condition that materially alters the truth of any statement made in this Certification.

4.10 AGENCY INSURANCE REQUIREMENTS MODIFICATION

Default Insurance Coverage from the General Terms and Conditions applicable to this Solicitation:

- Contract value in excess of the Small Purchase threshold, but up to \$1,000,000.00

4.11 SUBCONTRACTORS

No portion of the work shall be subcontracted without prior written consent of the State. In the event that the Vendor desires to subcontract some part of the work specified herein, the Vendor shall furnish with their bid the names, qualifications, and experience of their proposed subcontractors. The Vendor shall, however, remain solely and fully liable and responsible for the work done by its subcontractor(s) and shall assure compliance with all the requirements and specifications of the contract.

4.12 SECRETARY OF STATE REGISTRATION

A contract award under the above-referenced solicitation, and the resulting purchase orders, will produce repeated orders and transactions in North Carolina and will constitute "transacting business" in the State, which requires a certificate of authority from the North Carolina Secretary of State as provided in G.S. §55-15-01 (corporations) or §57D-7-01 (LLCs). Please go to: <https://www.sosnc.gov/> to register.

Vendor has registered with the North Carolina Secretary of State: Yes No

Prior to entering into a contract with the State, the awarded Vendor(s) must complete registration with the NC Secretary of State. Upon notification of award, the selected Vendor(s), if unregistered, must furnish evidence of filing within ten (10) business days. Failure to provide this documentation may result in the disqualification of the Vendor(s) bid from further consideration for the award. No purchase orders shall be issued prior to confirmation of completed registration with the Secretary of State.

4.13 SUSTAINABILITY EFFORTS

According to G.S. 143-58.2, it is the policy of this State to encourage and promote the purchase of products with recycled content and to purchase items that are reusable, refillable, repairable, more durable, and less toxic to the extent that the purchase or use is practicable and cost effective.

5.0 PRODUCT SPECIFICATIONS

5.1 SPECIFICATIONS

The specific items and any specifications that the Purchasing Agency is seeking are listed in the following attachments:

1) ATTACHMENT J: AASHTO M144-14 STANDARD SPECIFICATIONS

- All sections and subsections, **except those listed below**, are applicable to this IFB:
 - Subsection 1.2. of Section 1. Scope
 - Subsection 2.1 AASHTO Standards and 2.2. D1429, Standard Test Methods for Specific Gravity of Water and Brine of Section 2. Referenced Documents
 - Section 4. Ordering Information
 - Section 6. Physical Requirements
 - Section 7. Sampling and Testing
 - Subsection 8.2. of Section 8 Rejection
 - Section 11. Keywords
 - Appendixes

2) ATTACHMENT K: ASTM D98 STANDARD SPECIFICATIONS

- Only the sections and subsections, **listed below**, are applicable to this IFB:
 - Section 5. Chemical Requirements is applicable to this IFB.
 - Subsection 7.2 of Section 7. Sampling, Examination, and Testing
 - Subsection 10.1 of Section 10. Packaging, Package Marking, and Shipping

5.2 DEVIATIONS

The nature of all deviations from the Specifications listed herein shall be clearly described by the Vendor. Otherwise, it will be considered that items offered by the Vendor are in strict compliance with the Specifications provided herein, and the successful Vendor shall be required to supply conforming goods. Deviations shall be explained in detail on an attached sheet. However, no implication is made or intended by the State that any deviation will be acceptable. Do not list objections to the North Carolina General Terms and Conditions in this section.

6.0 CONTRACT ADMINISTRATION

All Contract Administration requirements are conditioned on an award resulting from this solicitation. This information is provided for the Vendor’s planning purposes

6.1 CONTRACT MANAGER AND CUSTOMER SERVICE

The Vendor shall be required to designate and make available to the State a contract manager. The contract manager shall be the State’s point of contact for Contract related issues and issues concerning performance, progress review, scheduling, and service.

| Contract Manager Point of Contact | |
|--|--|
| Name: | |
| Office Phone #: | |
| Mobile Phone #: | |
| Email: | |

The Vendor shall be required to designate and make available to the State for customer service. The customer service point of contact shall be the State’s point of contact for customer service-related issues concerning invoice, order placement, and delivery.

| Customer Service Point of Contact | |
|--|--|
| Name: | |
| Office Phone #: | |
| Mobile Phone #: | |
| Email: | |

6.2 CONTINUOUS IMPROVEMENT

The State encourages the Vendor to identify opportunities to reduce the total cost the State. A continuous improvement effort consisting of various ideas to enhance business efficiencies as performance progresses.

6.3 ACCEPTANCE OF WORK

Performance of the work and delivery of Goods shall be conducted and completed at least in accordance with the Contract requirements and recognized and customarily accepted industry practices. Performance shall be considered complete when the Services or Goods are approved as acceptable by the Contract Manager.

Acceptance of work products shall be based on the following criteria:

- 1) Calcium Chloride, when tested by the NCDOT Materials and Tests Unit, meets AASHTO requirements.

The State shall have the obligation to notify Vendor, in writing ten (10) calendar days following completion of such work or delivery of a deliverable described in the Contract that it is not acceptable. The notice shall specify in reasonable detail the reason(s) it is unacceptable. Acceptance by the State shall not be unreasonably withheld; but may be conditioned or delayed as required for reasonable review, evaluation, installation, or testing, as applicable to the work or deliverable. Final acceptance is expressly conditioned upon completion of all applicable assessment procedures. Should the work or deliverables fail to meet any specifications, acceptance criteria or otherwise fail to conform to the Contract, the State may exercise any and all rights hereunder, including, for Goods deliverables, such rights provided by the Uniform Commercial Code, as adopted in North Carolina.

6.4 INVOICES

Vendor shall invoice the Purchasing Agency. The standard format for invoicing shall be Single Invoices meaning that the Vendor shall provide the Purchasing Agency with an invoice for each order. Invoices shall include detailed line-item information to allow Purchasing Agency to verify pricing at point of receipt matches the correct price from the original date of order. At a minimum, the following fields shall be included on all invoices:

Vendor's Billing Address, Customer Account Number, NC Contract Number, Order Date, Buyer's Order Number, Manufacturer Part Numbers, Vendor Part Numbers, Item Descriptions, Price, Quantity, and Unit of Measure.

INVOICES MAY NOT BE PAID UNTIL AN INSPECTION HAS OCCURRED AND THE GOODS ACCEPTED.

6.5 DISPUTE RESOLUTION

During the performance of the Contract, the Parties agree that it is in their mutual interest to resolve disputes informally. Any claims by the Vendor shall be submitted in writing to the State's Contract Manager for resolution. Any claims by the State shall be submitted in writing to the Vendor's Project Manager for resolution. The Parties shall agree to negotiate in good faith and use all reasonable efforts to resolve such dispute(s).

During the time the Parties are attempting to resolve any dispute, each shall proceed diligently to perform their respective duties and responsibilities under this Contract. The Parties will agree on a reasonable amount of time to resolve a dispute. If a dispute cannot be resolved between the Parties within the agreed upon period, either Party may elect to exercise any other remedies available under the Contract, or at law. This provision, when agreed in the Contract, shall not constitute an agreement by either party to mediate or arbitrate any dispute.

6.6 PRODUCT RECALL

Vendor expressly assumes full responsibility for prompt notification to the Buyer listed on the face of this IFB of any product recall in accordance with the applicable state or federal regulations. The Vendor shall support the State, as necessary, to promptly replace any such products, at no cost to the State.

6.7 PRICE ADJUSTMENTS

Prices proposed by the Vendor shall be firm against any increase for one (1) year from the effective date of the Contract.

Price increase requests shall be submitted in writing to the Contract Lead, which shall include the reason(s) for the request and contain supporting documentation for the need. Price increases will be negotiated and agreed to by both the State and Vendor in advance of any price increase going into effect. The State is not obligated to accept pricing adjustments or increases and reserves the right to accept or reject them in part or in whole. Price de-escalation or decreases may be requested by the State at any time.

It is understood and agreed that orders will be shipped at the established Contract prices in effect on the date an order is placed. Invoicing that deviates from this provision may result in Contract to cancellation.

6.8 CONTRACT CHANGES

Contract changes, if any, over the life of the Contract shall be implemented by contract amendments agreed to in writing by the State and Vendor. Amendments to the contract can only be made through the contract administrator.

6.9 ESTIMATED QUANTITIES

The quantity indicated herein is a three (3) year estimate only and is provided for informational purposes based on the anticipated usage during the previous three (3) year period. No maximum or minimum quantities are guaranteed. It shall be understood and agreed that the State may purchase more or less than the estimated quantities during the contract period. The State reserves the right to increase or decrease the quantities as needed. The State shall not be obligated to purchase more than its normal requirements. The State will be responsible only for items requested and received.

****IMPORTANT NOTICE****

RETURN THE REQUIRED ATTACHMENTS WITH YOUR RESPONSE

FOLLOW THE LINKS TO ACCESS EACH ATTACHMENT

The remainder of this page is intentionally left blank

7.0 ATTACHMENTS

ATTACHMENT A: PRICING FORM

| Item # | QTY. | UOM | DESCRIPTION | UNIT PRICE | EXTENDED PRICE |
|--------|---------|--------|---------------------------------|------------|----------------|
| 1 | 295,000 | Gallon | Calcium Chloride, Class L, Bulk | \$ _____ | \$ _____ |

TOTAL EXTENDED PRICE: \$ _____

The remainder of this page is intentionally left blank

ATTACHMENT B: INSTRUCTIONS TO VENDORS

The Instructions to Vendors, which are incorporated herein by this reference, may be found here:

<https://www.doa.nc.gov/pandc/north-carolina-instructions-vendors-1-2025/open>

ATTACHMENT C: NORTH CAROLINA GENERAL TERMS & CONDITIONS

The North Carolina General Terms and Conditions, which are incorporated herein by this reference, may be found here:

<https://www.doa.nc.gov/north-carolina-general-terms-and-conditions-5-2025/open>

ATTACHMENT D: HUB SUPPLEMENTAL VENDOR INFORMATION

Complete and return the Historically Underutilized Businesses (HUB) Vendor Information form, which can be found at the following link:

<https://www.doa.nc.gov/pandc/onlineforms/pc-hub-supplemental-vendor-information-92021-pdf/open>

(MUST RETURN)

ATTACHMENT E: CUSTOMER REFERENCE FORM

Complete and return the Customer Reference Form, which can be found at the following link:

<https://ncadmin.nc.gov/media/15503/open>

(RETURN UPON REQUEST)

ATTACHMENT F: LOCATION OF WORKERS UTILIZED BY VENDOR

Complete and return the Location of Workers Utilized by Vendor, which can be found at the following link:

<https://www.doa.nc.gov/pandc/onlineforms/pc-worker-location-92021-pdf/open>

(MUST RETURN)

ATTACHMENT G: CERTIFICATION OF FINANCIAL CONDITION

Complete, sign, and return the Certification of Financial Condition, which can be found at the following link:

<https://www.doa.nc.gov/pandc/onlineforms/pc-certification-financial-condition-92021-pdf/open>

(MUST RETURN)

ATTACHMENT H: VENDOR REQUEST FOR EO50 PRICE-MATCHING

Complete, sign, and return the Vendor Request for EO50 Price-Matching, which can be found at the following link:

<https://www.doa.nc.gov/pandc/onlineforms/pc-eo-50-vendor-price-matching-opportunity-92021-pdf/open>

(RETURN IF APPLICABLE)

***** Failure to Return the Required Attachments May Eliminate
Your Response from Further Consideration *****

ATTACHMENT J: AASHTO M144-14 STANDARD SPECIFICATIONS

Standard Specification for

Calcium Chloride



AASHTO Designation: M 144-14 (2022)

Technically Revised: 2014

Reviewed but Not Updated: 2022

Editorially Revised: 2022

Technical Subcommittee: 4c, Markings and Coatings

1. SCOPE

- 1.1. This specification covers technical grade calcium chloride used for pretreatment of and deicing road surfaces, dust control, stabilizing, and conditioning road surfaces, and for accelerating the set of concrete not reinforced with steel. 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.

2. REFERENCED DOCUMENTS

- 2.1. *AASHTO Standard:*
 - T 143, Sampling and Testing Calcium Chloride for Roads and Structural Applications
- 2.2. *ASTM Standards:*
 - D98, Standard Specification for Calcium Chloride
 - D1429, Standard Test Methods for Specific Gravity of Water and Brine

3. CLASSIFICATION

- 3.1. The types, concentrations, grades, and classes shall be as specified in ASTM D98.
- 3.2. This specification also covers calcium chloride used in the form of brine, defined as a liquid saturated with chloride.

4. ORDERING INFORMATION

- 4.1. *Orders for material 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, grade, and class of product required;
 - 4.1.3. Quantity required;

TS-4c

M 144-1

AASHTO

- 4.1.4. Special requirements (including packaging size, marking requirements, and special shipping instructions), if required; and
- 4.1.5. Testing and certification, if required.

5. CHEMICAL REQUIREMENTS

- 5.1. The chemical composition for the calcium chloride ordered shall comply with the requirements of ASTM D98.
- 5.2. A current Safety Data Sheet (SDS) is required for the calcium chloride ordered and, as appropriate, the current SDS for any anticaking agents or other additives used is also required.
- 5.3. Calcium chloride brine shall be at a solution concentration of 30 percent CaCl₂ 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. Solid forms of calcium chloride shall comply with the grading in ASTM D98 for the grade and class ordered.
- 6.2. Anticaking agents may be specified to prevent stockpiles from crusting over or forming clumps of product.
- 6.3. *Brine:*
- 6.3.1. Calcium chloride brine shall be delivered at a solution concentration of 30 percent CaCl₂ by weight with a specific gravity of 1.295 when tested in accordance with ASTM D1429, Method D.
Note 2—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.

7. SAMPLING AND TESTING

- 7.1. Sampling shall comply with the requirements of T 143, when required.
- 7.2. Testing shall comply with the requirements of T 143, when required.
- 7.3. When sampling and testing are performed after delivery, a tolerance of 1 percent below the minimum chemical content of calcium chloride is acceptable when sampled and tested in accordance with T 143, when the packaging is not damaged, and when the material has not become caked or otherwise contaminated.
- 7.4. *Sampling Calcium Chloride Brine:*
- 7.4.1. A minimum of three samples shall be selected from each storage tank or truck to form a composite sample.
- 7.4.2. The composite sample of brine shall be tested in accordance with ASTM D1429, Method D.

TS-4c

M 144-2

AASHTO

8. REJECTION

- 8.1. Calcium chloride that fails to conform to the requirements of this specification may be rejected.
- 8.2. Calcium chloride that has become caked, sticky, or otherwise contaminated during shipment may also be rejected, whether it has been tested or not.
- 8.3. Calcium chloride brine containing undissolved clumps of solid calcium chloride or other solid contaminants may be rejected.

9. CERTIFICATION

- 9.1. When specified in the purchase order or contract, a supplier’s certification shall be furnished stating that representative samples have been inspected and tested in accordance with this specification and have been found to meet the requirements of the material described in the order. When specified in the purchase order or contract, a report of the test results shall be furnished.

10. PACKAGING AND MARKING

- 10.1. Both solid and liquid forms of calcium chloride shall be packaged and transported in such a manner that they are protected from moisture and contamination.
- 10.2. *Each container or package of calcium chloride shall be identified by the following, unless otherwise specified in the purchase order or contract:*
 - 10.2.1. Manufacturer’s name,
 - 10.2.2. Product name,
 - 10.2.3. Net weight, and
 - 10.2.4. Percentage of calcium chloride guaranteed.
- 10.3. Calcium chloride brine shall include the identification in Section 10.2 for the product prior to it being mixed into brine.

11. KEYWORDS

- 11.1. Brine; calcium chloride; deicing salts; stabilization.

APPENDIX

(Nonmandatory Information)

X1. PRODUCTION OF BRINE USING CALCIUM CHLORIDE

- X1.1. Brine is defined as a liquid that is saturated or nearly full of chloride.

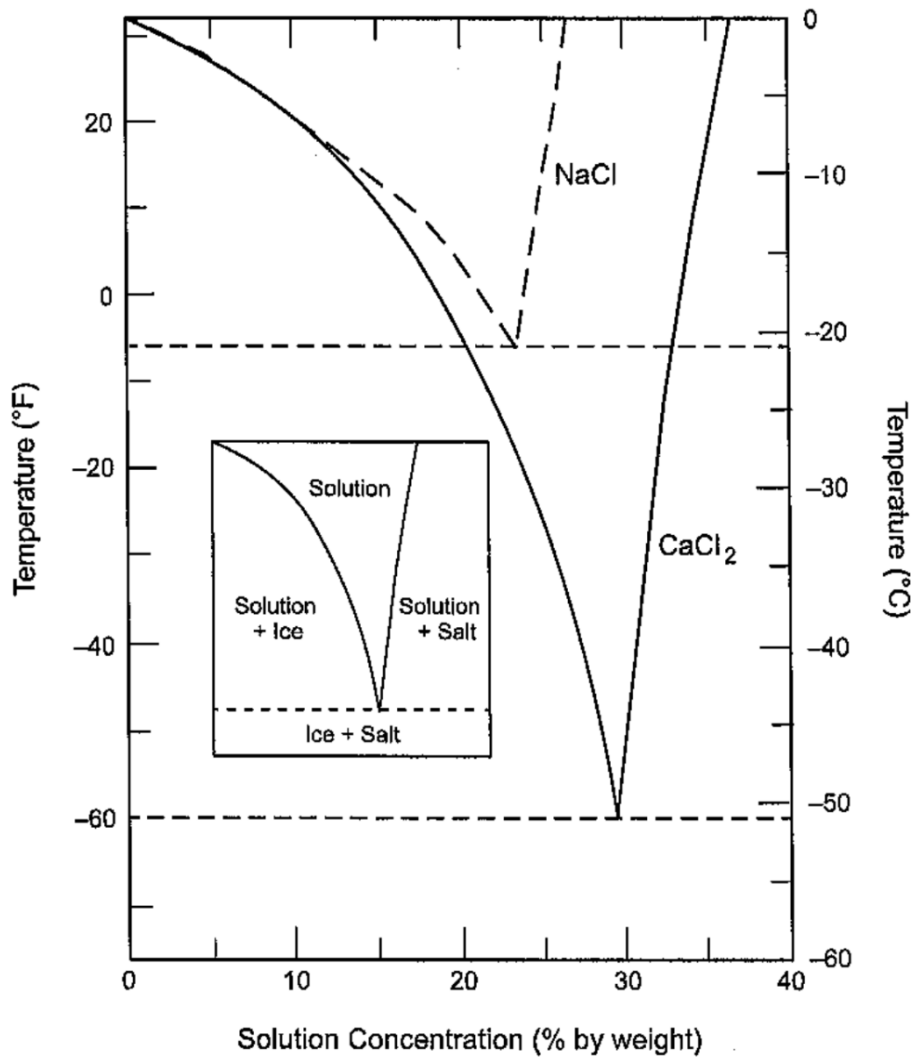


Figure X1.1—Phase Diagram of Sodium Chloride and Calcium Chloride Brine

ATTACHMENT K: ASTM D98 STANDARD SPECIFICATIONS

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.



Designation: D98 – 15 (Reapproved 2021)

Standard Specification for Calcium Chloride¹

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 (ε) 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:²

D345 Test Method for Sampling and Testing Calcium Chloride for Roads and Structural Applications (Withdrawn 2019)³

E449 Test Methods for Analysis of Calcium Chloride

¹ 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.

Current edition approved Nov. 1, 2021. Published November 2021. Originally approved in 1921. Last previous edition approved in 2015 as D98 – 15. DOI: 10.1520/D0098-15R21.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

2.2 Federal Standards:⁴

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:⁴

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.:⁵

National Motor Freight Classification

2.5 Uniform Classification Committee:⁶

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 (CaCl₂) 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 %.

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

⁵ Available from American Trucking Association, Inc., 2200 Mill Rd., Alexandria, VA 22314.

⁶ Available from Uniform Classification Committee, 212 Union Station, Chicago, IL 60606.

D98 – 15 (2021)

3.3 Grades—Type S (solid) calcium chloride is graded as follows:

3.3.1 *Grade N1*, 77 % minimum calcium chloride concentration of either Class A—Flake, or Class B—Granular.

3.3.2 *Grade N2*, 83 % minimum calcium chloride concentration of Class A—Flake, Class B—Pellet, Class C—Granular, or Class D—Powder.

3.3.3 *Grade N3*, 90 % minimum calcium chloride concentration of Class A—Flake, Class B—Pellet, Class C—Granular, or Class D—Powder.

3.3.4 *Grade N4*, 94 % minimum calcium chloride concentration of Class A—Flake, Class B—Pellet, Class C—Granular, or Class D—Powder.

4. Ordering Information

4.1 Orders for material under this specification shall include the following information:

- 4.1.1 This specification designation and date of issue,
- 4.1.2 Type S (solid) or Type L (liquid) concentration, grade and class of calcium chloride required (see Section 3),
- 4.1.3 Quantity of calcium chloride required,
- 4.1.4 Whether special sampling for inspection is required (see Section 7), and
- 4.1.5 Whether special packaging and marking is required (see Section 10).

5. Chemical Requirements

5.1 The calcium chloride shall conform to the following requirements for chemical composition, except for the tolerances stated in 7.2.

5.1.1 CaCl₂ content, %, not less than the minimum concentration specified, nor greater than the maximum concentration specified (when a maximum is specified).

5.1.2 Impurity content, %, specified relative to the amount of active ingredient (CaCl₂) in the product (see 5.2 for example calculations):

| | |
|---|-----|
| Total alkali chlorides (as NaCl), max, % | 6.0 |
| Total magnesium as MgCl ₂ , max, % | 0.5 |
| Calcium hydroxide, max, % | 0.2 |

5.1.2.1 Limits on other impurities shall be specified by the purchaser according to requirements specific to the end use.

5.2 *Calculating Impurity Content on an Active Ingredient Basis:*

5.2.1 To calculate the impurity content on an active ingredient basis, the impurity percentage measured on an “as received” basis is divided by the CaCl₂ assay in decimal form as shown in the following example:

| | |
|---|-----|
| Product #1 | |
| CaCl ₂ content, as-received basis, % | 90 |
| Total alkali chlorides (as NaCl), as-received basis, % | 4.0 |
| Total alkali chlorides (as NaCl), active ingredient basis, % (4.0/90)(100)= | 4.4 |

6. Physical Requirements

6.1 The grading of solid form calcium chloride shall conform to the requirements of Table 1 for the grade and class specified in the order.

7. Sampling, Examination, and Testing

7.1 Sampling, examining, and testing of calcium chloride shall be done in accordance with Test Methods D345 and E449. When specified in the contract or purchase order, sampling for examination shall be performed in accordance with MIL-STD-105 at an acceptable quality level specified by the purchaser.

7.2 When the purchaser elects to sample the material (solid or liquid) after delivery, a tolerance of 1 % below the minimum CaCl₂ requirement shall apply, provided that the material has been analyzed correctly and transported per the requirements stated in 10.1.

8. Inspection

8.1 Unless otherwise specified in the contract or purchase order, the supplier shall be responsible for the performance of all inspection requirements as specified herein.

8.2 Except as otherwise specified, the supplier shall use his own facilities or any commercial laboratory acceptable to the purchaser for analysis of material. The purchaser reserves the right to perform any of the inspections set forth in this specification where such inspections are deemed necessary to ensure that supplies and services conform to the prescribed requirements.

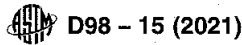
9. Rejection

9.1 The calcium chloride shall be subject to rejection if it fails to conform to any of the requirements of this specification or, in the case of the solid forms, if it has become caked or sticky in shipment.

TABLE 1 Sieve Analysis

| Sieve Size | Mass % Passing | | | | | | | | | | | | | |
|-------------------|--|---------------------|--|--------------------|---------------------|--|------------------|--------------------|---------------------|--|------------------|--------------------|---------------------|-------------------|
| | Grade N1—77 % min CaCl ₂ | | Grade N2—83 % min CaCl ₂ | | | Grade N3—90 % min CaCl ₂ | | | | Grade N4—94 % min CaCl ₂ | | | | |
| | Class A Flake | Class B Granular | Class A Flake | Class B Pellets | Class C Granular | Class D Powder | Class A Flake | Class B Pellets | Class C Granular | Class D Powder | Class A Flake | Class B Pellets | Class C Granular | Class D Powder |
| 31.5 mm 1 1/4 in. | ... | ... | ... | ... | 100 | ... | ... | ... | 100 | ... | ... | ... | 100 | ... |
| 9.5 mm 3/8 in. | 100 | 100 | 100 | 100 | ... | ... | 100 | 100 | ... | ... | 100 | 100 | ... | ... |
| 4.75 mm No. 4 | 80–100 | 0–80 | 80–100 | 80–100 | 0–5 | ... | 100 | 80–100 | 80–100 | 0–5 | ... | 100 | 80–100 | 80–100 |
| 2.36 mm No. 8 | ... | ... | ... | ... | ... | ... | 80–100 | ... | ... | ... | ... | 80–100 | ... | ... |
| 1.18 mm No. 16 | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... | ... |
| 850 μm No. 20 | ... | ... | ... | 0–10 | ... | ... | ... | ... | 0–10 | ... | ... | ... | 0–10 | ... |
| 600 μm No. 30 | 0–5 | 0–5 | 0–5 | 0–5 | ... | 0–65 | 0–5 | 0–5 | ... | 0–65 | 0–5 | 0–5 | ... | 0–65 |

Copyright by ASTM Int'l (all rights reserved) Mon Oct 20 16:47:48 UTC 2025
 Downloaded/printed by
 Alex Irving (North Carolina Dept of Transportation) pursuant to License Agreement. No further reproductions authorized.



10. Packaging, Package Marking, and Shipping

10.1 Calcium chloride in either solid or liquid form shall be packaged and transported in a manner that protects the product from moisture and other sources of contamination.

10.2 Unless otherwise specified in the contract or purchase order, the name of the manufacturer, name of the product, net weight, and percentage of calcium chloride guaranteed by the manufacturer shall be legibly marked on each container for package shipments, or on the invoice or shipping papers accompanying bulk shipments.

10.3 When specified in the contract or purchase order as for Federal Government procurement, calcium chloride shall be prepared for shipment in accordance with the provisions specified in 10.4 – 10.6.2.

10.4 *Packaging*—Packaging for Federal Government procurement shall be Level A or C as specified (see 4.1.5).

10.4.1 *Level A:*

10.4.1.1 *Unit Packaging*—Calcium chloride in solid form shall be packaged in 0.45 or 2.25-kg (1 or 5-lb) quantities, as specified (see 10.4), in glass bottles conforming to Group A, Class 1, Style 2, Closure A of PPP-C-186.

10.4.1.2 *Intermediate Packaging*—Calcium chloride unit, packaged in accordance with 10.4.1.1, shall be intermediately packaged in accordance with the Level A requirements of PPP-C-186.

10.4.2 *Level C*—Calcium chloride shall be packaged in the quantities specified (see 4.1.5), in accordance with supplier's standard practice.

10.5 *Packaging*—Packing for Federal Government procurement shall be Level A, B, or C as specified (see 4.1.5).

10.5.1 *Level A:*

10.5.1.1 *For 0.45 or 2.25-kg (1 and 5-lb) Quantities*—Calcium chloride, packaged in accordance with 10.4.1.1, shall be packed in accordance with the Level A requirement of PPP-C-186.

10.5.1.2 *For 36 and 45-kg (80 and 100-lb) Quantities*—Calcium chloride, as specified (see 4.1.5), shall be packed in appropriate size sacks conforming to construction number 16X

or 17X of UU-S-48, bags conforming to bag number P35B/A of PPP-B-35, or fiber drums conforming to Type III, Grade A, of PPP-D-723, as specified (see 4.1.5). Fiber drums shall be provided with a polyethylene bag liner or other suitable water-vapor-proof liner or interior coating.

10.5.2 *Level B:*

10.5.2.1 *For 0.45 and 2.25-kg (1 and 5-lb) Quantities*—Calcium chloride, packaged in accordance with 10.4, shall be packed in accordance with the Level B requirements of PPP-C-186.

10.5.2.2 *For 36 and 45-kg (80 and 100-lb) Quantities*—Calcium chloride, as specified (see 4.1.5), shall be packed in appropriate size sacks conforming to construction number 8L/W or 14L/W of UU-S-48, bags conforming to bag number P35B of PPP-B-35, or fiber drums conforming to Type I, Grade A, of PPP-D-723, as specified (see 4.1.5). Fiber drums shall be provided with a polyethylene bag liner or other suitable water-vapor-proof lining or interior coating.

10.5.3 *Level C*—Calcium chloride shall be packaged in quantities specified (see 4.1.5), in a manner which will ensure arrival at destination in satisfactory condition and be acceptable to the carrier at lowest rates. Containers and packing shall comply with the Uniform Freight Classification rules or National Motor Freight Classification rules.

10.6 *Marking* (see 4.1.5):

10.6.1 *Civil Agencies*—In addition to any special marking required by the contract or order, the interior packages and exterior shipping containers shall be marked in accordance with Fed. Std. No. 123.

10.6.2 *Military Activities*—In addition to any special marking required by the contract or order, the interior packages and exterior shipping containers shall be marked in accordance with MIL-STD-129.

11. Keywords

11.1 calcium chloride; concrete accelerator; concrete admixture; deicing chemical; dessication; dust control; snow and ice removal; stabilization

ASTM International takes no position respecting the validity of any patent rights asserted in connection with any item mentioned in this standard. Users of this standard are expressly advised that determination of the validity of any such patent rights, and the risk of infringement of such rights, are entirely their own responsibility.

This standard is subject to revision at any time by the responsible technical committee and must be reviewed every five years and if not revised, either reapproved or withdrawn. Your comments are invited either for revision of this standard or for additional standards and should be addressed to ASTM International Headquarters. Your comments will receive careful consideration at a meeting of the responsible technical committee, which you may attend. If you feel that your comments have not received a fair hearing you should make your views known to the ASTM Committee on Standards, at the address shown below.

This standard is copyrighted by ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959, United States. Individual reprints (single or multiple copies) of this standard may be obtained by contacting ASTM at the above address or at 610-832-9585 (phone), 610-832-9555 (fax), or service@astm.org (e-mail); or through the ASTM website (www.astm.org). Permission rights to photocopy the standard may also be secured from the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, Tel: (978) 646-2600; http://www.copyright.com