

## 2025 AASHTO re:source Winter Highway Maintenance Proficiency Samples 3(A) and 4(B)

### Instructions for Testing and Reporting

Closing Date: January 29th, 2026

All tests should be conducted on each of the two samples according to the methods indicated. Report the results of a single determination only, not the average of two or more, except in cases where an average is called for in the method. For any tests that you do not perform, leave the appropriate spaces on the data sheet blank.

#### Each sample box should contain the following items:

- Two, 500g bags of solid product (Moisture Content and Chloride Ion Content)
- Two, 550g bags of solid product (Sieve Analysis and Insoluble Materials)
- Two, one-half gallon jugs of liquid product

Treat each sample as you would treat a typical testing sample.

Directions for the individual tests on Sample No. 3(A) and Sample No. 4(B) follow:

#### Instructions for Liquid Products are Below

##### Category 2 Product

#### **Specific Gravity of Water and Brine by Pycnometer (Method A) (ASTM D1429-13):**

Determine the specific gravity using a pycnometer (Method A) at  $20 \pm 1^\circ\text{C}$ . Report the specific gravity value to the nearest 0.0001.

#### **pH of Water (ASTM D1293):**

Determine the pH of the solution in accordance with Procedure A. When preparing the specimen, dilute the chemical product to distilled water in a 1:4 ratio. Report the pH to the nearest 0.1.

#### **Settleable Solids and Percent Solids Passing a No. 10 (2.00 mm) Sieve (Clear Roads – Guidance Document for Material Qualified Products List – 2021):**

Determine the percentage of settleable solids by volume and the percentage of solids passing the No. 10 (2.00mm) sieve. Report the percentages to the nearest 0.1 percent.

#### **Corrosion Rate (NACE TM-169-95 with Modifications from Clear Roads – Guidance Document for Material Qualified Products List – 2021):**

Determine the initial corrosion value (mils of penetration per year (MPY)) to the nearest 0.01 g/cc. Determine the water corrected corrosion value (MPY) to the nearest 0.01 g/cc. Determine the percent effectiveness to the nearest 0.01%.

#### Instructions for Solid Products are Below

##### Sodium Chloride/Magnesium Chloride Blend

***When using the 500g bags for Moisture Content and Chloride Ion Content test for Moisture Content first, then prep and test for Chloride Ion Content (D632).***

#### **Chloride Ion Content Rapid Method (D632-12):**

Determine the chloride ion content in accordance with Annex A1. Report the total chlorides to the nearest 0.1 percent.

***When using the 550g bags for Sieve Analysis and Insoluble Materials, test for Sieve Analysis (C136) first, retain and recombine the material for use in Chemical Analysis of Sodium Chloride (E534).***

#### **Sieve Analysis (ASTM C136-19):**

Report to the nearest 0.1 percent the total material **passing** each of the following sieves: 12.5-mm (1/2"), 9.5-mm (3/8"), 4.75-mm (No. 4), 2.36-mm (No. 8), and 600- $\mu$ m (No. 30). Calculate the percentage of each fraction based on the total original as received mass. (*The intent is to follow the test methods exactly as written.*) **Use the same set of sieves for both samples.** **Retain and recombine the material for use in the Water Insoluble portion of the Chemical Analysis of Sodium Chloride (E534).**

**Chemical Analysis of Sodium Chloride (ASTM E534-18):**

Determine and report the moisture content to the nearest 0.001 percent. Determine and report the water insoluble material to the nearest 0.01 percent.

Please contact AASHTO re:source at [psp@ashtoresource.org](mailto:psp@ashtoresource.org) or call 240-436-4900 if there are questions.