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Inspiring Minds

September 2023

## Road Salt

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### Citation of this paper:

Addai, Robert, "Road Salt" (2023). *Inspiring Minds – A Digital Collection of Western's Graduate Research, Scholarship and Creative Activity*. 495.

<https://ir.lib.uwo.ca/inspiringminds/495>

## **Robert Addai- Road Salt**

Snow and ice control is essential to maintain the safety and mobility of various roads/sidewalks during the winter months in Canada. Unfortunately, these high releases of NaCl are causing long-term corrosion to infrastructure and vehicles, and damage to the environment. The aims of the study are to analyze different road salts, including two new proprietary salts, and optimize their benefits in terms of their corrosivity, environmental impact, ice melting performance, and costs to ensure maximum benefit to Canadian municipalities using road salts. Last winter, corrosion rate of nine different salts (NaCl, KCl, CaCl<sub>2</sub>, MgCl<sub>2</sub>, CMA, NaOAc, SB Brine, CFB Flake, and Western University Salt) was analyzed at the field using mass loss. The masses of the metal coupons (Mild steel, High strength steel, Galvanized steel, 304 stainless steel, and Aluminum Alloy) were measured before and after the exposure. Surfaces of metal coupons were analyzed using SEM. The research is in progress.