

Appendix C: Summary of Road Salt Alternatives

Material	Bulk Cost	Corrosivity	Effective Temperature	Environmental Impacts	Performance
Calcium Magnesium Acetate	\$900.00 per ton	Low	-15°C	-biodegradable and can increase soil fertility. -dust can be irritating to humans.	-it remains longer on applied surfaces. -most beneficial as anti-icing agent.
Magnesium Chloride	\$300.00 per ton	Moderate	-15°C	-same effects as sodium chloride.	-more effective de-icer than sodium chloride. -typically used in pre-wetting applications.
Potassium Acetate	\$5.00 per litre	Low	-26°C	-biodegradable -toxic to fish in high concentrations.	-used for pre-wetting
Calcium Chloride	\$300.00 per ton	Severe	-30°C	-has negative effects on environment. -produces an oily residue. -damage leathers and rubber.	-more effective than sodium chloride. -typically used as pre-wetting or mixed with sand.
Sodium Chloride	\$83.50 per ton	Severe	-10°C	-can be harmful to aquatic life. -damaging to vegetation up to 10m from road edge.	-readily available in Ontario. -effective anti-icing and de-icing agent.
Ag Products (E.g. BEET 55)	Beet Juice: \$1.82 per gallon Corn Syrup: \$35.00 per gallon	Low	-15°C	-no long-term research exists, but believe to be less harmful than salt. -aesthetic may be a concern.	-needs to be stored in double walled tanks on impermeable pad. -improves longevity of salt. -works at cold temperatures.