

Environmental impacts of practices and conditions of road deicing products storage

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1. ABSTRACT

CEREMA has initiated a study about the environmental impact for practices of storage and use of sodium chloride used for road de-icing in winter. The experimentation is located in the Centres d'Entretien et d'Intervention, Direction Interdépartementale des Routes Nord (CEI DIR Nord) near Lille (France).

Two sites have been selected to survey over 4 years the impact of storage properties on water, soil and plants. A piezometers network has been installed for groundwater monitoring. It's been designed to take water and soil samples four times a year to consider seasonal variations.

Inventory of fixtures has been made a first year. The first results show the influence of de-icing storage on chloride concentrations in environments (water, soil and flora). They also indicate the importance of seasonal variations.

The perspectives of this study are :

- sites monitoring the sites over 4 years,
- data collection and analysis, including correlation with data of road managers, weather, winter activity (number of shipments, replenishment,...)
- good practices identification and effect on environmental properties assessment (performing tests on-site equipped),
- halophytic plants identification for revegetation of storage sites but also possibly to limit the impact on soil and water through retention property of certain plants.