BEHAVIOR OF FERROCYANIDE AND CYANIDE IN RELATION TO DEICING SALT RUNOFF

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ABRIDGMENT

•IN RUNOFF from highway deicing salt, sodium ferrocyanide is partially decomposed by sunlight, and cyanide ion is liberated. Sunlight causes partial decomposition of sodium ferrocyanide, in runoff from highway deicing salt, and the liberation of cyanide ion. Rate of ferrocyanide breakdown depends on incident solar energy, ferrocyanide concentration, and water depth and clarity. In shallow solutions exposed to direct sunlight, ferrocyanide breakdown is rapid, but cyanide escape from solution is also accelerated; in deeper solutions, ferrocyanide breakdown to release cyanide is slowed by light reflection and by water turbidity. When generated, cyanide is transferred into the atmosphere as hydrogen cyanide gas at a rate accelerated by wind, water turbulence, and higher water temperature. Present levels of ferrocyanide treatment of highway deicing salt do not appear to present imminent dangers of fish mortality or of atmospheric pollution.

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