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# Dissipation Study of Mepiquat Chloride and its Metabolites in Water at Different pH Levels

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**Abstract:** The dissipation behavior of mepiquat chloride in acidic, neutral and basic water was studied using mepiquat chloride 25% SL formulation. The formulation was spiked in different aqueous buffer solutions at different concentrations, such as T0 – Untreated Control, T1 – mepiquat chloride 1.0 mg/L and T2 – mepiquat chloride 2.0 mg/L. The spiked samples were exposed to sun light and collected at different pre-determined sampling occasions such as 0, 1, 3, 5, 7, 10, 15 and 20 days for acidic water, neutral and basic water. These collected samples were analyzed until the residues were below determination level in each of the buffer solution. The content of mepiquat chloride was analyzed by a validated UV-VIS Spectro- photometric method and its metabolites N-methyl piperidine and piperidine were analyzed using validated GC-FID method. The related dissipation data was obtained.

**Key Words:** Mepiquat Chloride, N-methyl piperidine, Piperidine, Dissipation, DT50 and aqueous buffer solutions.

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