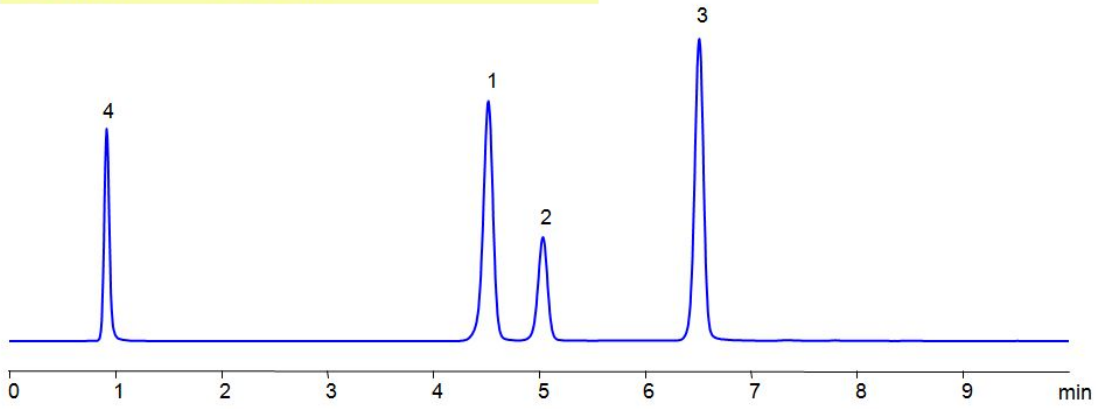
HPLC Method for Analysis of Pesticides: Isoproturon, Diuron, Acenaphthene, Carbendazim

Column:	**Primesep 100**
Size:	3.2 x 100 mm
Mobile phase:	MeCN gradient from 35% to 85% in 6 min, 4 min hold H2SO4 gradient from 0.05% to 0.15% in 6 min, 4 min hold
Flow:	0.6 mL/min
Detection:	UV 230 nm

1. Isoproturon
2. Diuron
3. Acenaphthene
4. Carbendazim



Isoproturon is an agricultural herbicide with a tendency to adsorb to soils, which leads to it entering bodies of water. In that water, it is highly toxic for algae and oysters, while long term exposure to the pesticide affects the growth of fish. Diuron is a pre-emergent that is used for non-crop areas as well as with many agricultural crops. It has a low acute toxicity to mammals. It can cause irritation of nose and throat.if inhaled and irritation of eyes if comes in contact with the eyes. Acenaphthene is derived from coal tar and has many used such as dyes, pharmaceuticals, insecticides, fungicides, and plastics. It is harmful if ingested, inhaled or comes in contact with skin, and can cause irritations to skin, eyes, upper respiratory tract, and mucous membranes Carbendazim, also known as mercazole, is a broad-spectrum benzimidazole fungicide. It's used mostly as a worm control agent in places like tennis courts and golf greens. Sometimes it is also used to control plant diseases in cereals and fruits. Primesep 100, a reverse-phase column, contains embedded acidic ionizable groups and can retain Isoproturon, Diuron, Acenaphthene, and Carbendazim. The method is UV compatible and can be used as a general approach for analyzing similar compounds.

Method Parameters

Column	Primesep 100, 3.2×100 mm, 5 µm, 100 Å
Mobile Phase	Gradient MeCN – 35-85%, 6 min , 4 min hold
Buffer	Gradient H2SO4 – 0.05- 0.15%, 6 min, 4 min hold
Flow Rate	0.6 mL/min
Detection	UV, 230 nm

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