

Nitrate Sensing in Potable Water

Introduction

Nitrates occur naturally in drinking water. However, concentrations above certain threshold i.e., 40ppm (World Health Organisation) can pose serious threat to health. Methemoglobinemia or blue baby syndrome is a typical disease caused due to high Nitrate levels in water. The major sources of Nitrate contamination are improper disposal of human and animal wastes, overuse of chemical fertilizers in agriculture, industrial discharge of nitrogen compounds, etc. In India, Rajasthan, and some areas of Uttar Pradesh and Andhra Pradesh are affected with the problem of Nitrate in ground water.



Unique Features

- Optical UV-absorption based sensing.
- Reagent and label free sensing.
- No matrix fouling and maintenance issues.
- No drift problems.
- Portable and cost-effective system.

Specifications

- Technique : UV absorbance
- Mode : Off-line
- Range : 5 ppm-200 ppm
- Resolution : 1 ppm
- Temperature : 10-50°C

Applications

To monitor Nitrate levels in drinking water, industrial effluent release plants, and sewage treatment plants.

Status

Lab prototype ready and limited field trials done.

