

Environmental Monitoring Service

Testing and research laboratory for water, soil and food products

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Test Report

Customer name: Affordable Water

Solutions

Nature of sample: Sludge

Sample: Emergency Water Purifier
sachets

Sample collected: 14/10/2020

Analysis completed: 15/10/2020

Sample collected: by lab person

Lab ID: 307

The Toxicity Characteristic Leaching Procedure EPA Method 1311

Objective: To analyse leaching of Arsenic from the sludge left after using water treatment sachets “Emergency Water Purifier”.

Procedure:

1. 50 liters (5 buckets each 10 liter capacity) Arsenic contaminated water was added with concentration 700 ug/l (350 μg As₃ + 350 μg As₅). Water in each buckets was treated with help of Emergency Water Purifier sachets.
2. After adding powder to the water it was stirred with the help of wooden stick 1 cm diameter and 45 cm length, stirring duration was 1 minute with approximate rotation speed 150 RPM.
3. Water kept for 30 min for coagulation/flocculation process to be completed.
4. Water was analyzed after treatment and arsenic concentration was <2 ug/l.
5. Sludge which left at the bottom of the buckets was collected and proceed for the arsenic leaching test according EPA Method 1311.

Extraction fluid to extract arsenic from the sludge was used N 1 (EPA Method 1311).

Arsenic level was analyzed in extraction fluid after 18 hours of extraction time.

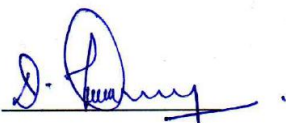
Arsenic level was 0.87 mg/l.

Maximum concentrations of contaminants allowed in the sludge for toxicity characteristics for arsenic 5 mg/l. In present test concentration of arsenic is 0.87 mg/l.

Conclusion: Sludge produced by using Emergency Water Purifier sachets after treatment of arsenic contaminated water environmentally safe and do not leach arsenic under normal climatic conditions. Sludge is not toxic.

Note: Arsenic was analyzed with “Thermo Scientific” Model AA301 atomic absorption spectrophotometer. Method of testing: A hydride generation atomic absorption spectrophotometer method i . APHA 20 — 3114B .

Analyst



Lab executive

