

## NEW SENSOR FOR DETECTION OF HEAVY METAL IONS IN DRINKING WATER

### TECHNOLOGY DESCRIPTION

This technology uses a highly sensitive and selective polymer sensor film in combination with surface plasmon resonance (SPR) technique to detect heavy metal ions in drinking water.

### TECHNOLOGY FEATURES

This sensor is simple, cost-effective, rapid, high sensitive and selective method for detection of heavy metal ions in drinking water as compared to the current technology. Only a small sample volume (~2ml) is needed for the heavy metal ions test. The highly sensitive gold or chitosan in the sensor is able to detect heavy metal ions with the detection limit as low as 0.5 ppm.

### ADVANTAGES

- Fast
- Cost-effective
- Portable - can be fabricated in a small device
- High versatile and label-free detection technique
- Simple and user friendly – no sample treatment or pre-treatment required
- High accuracy, sensitive and selective method
- Able to monitor molecular interaction in real-time
- Wide range of application – environmental monitoring, waste management, clinical

### INDUSTRY OVERVIEW

#### Prospect: Environmental monitoring/Waste Management Companies/Clinical Toxicology

In 2009, Malaysians consumed more than 300 litres of water per person per day compared to 150 litres per person per day by Singaporeans. Malaysians' water consumption per capita per day increases about 7.6 litres per year. Currently, there are 10 states water companies and 13 private operators hold concessions for water treatment plants throughout Malaysia. Potential target markets are water treatment plants, waste management companies and environmental monitoring bodies. Potential sales channel of the sensor is direct sales to the respective bodies, while the potential sales method is most likely to be through direct sales force and manufacturer's representative.

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