NOVEL HEAVY METAL IONS SENSOR CHIPS

TECHNOLOGY DESCRIPTION

This technology is a new polymer-based sensor chips used in heavy metal ions detection.

TECHNOLOGY FEATURES

This technology integrates with the novel sensor chip with surface plasmon resonance (SPR) technique. The method is simple, inexpensive, rapid, high sensitive and selective for detection of heavy metal ions. It consists of non destructive sensor device with low cost, and easy to use technology which has high accuracy and precise. It requires no sample treatment and also able to monitor molecular interaction in real time.

ADVANTAGES

• Cost-effective
• Simple and easy to use
• High sensitivity and repeatability
• Fast measurement capability
• Label free detection
• Environmental friendly
• No sample treatment required

INDUSTRY OVERVIEW

Prospects: Environmental monitoring, waste management

The global environmental sensor and monitoring market was worth at USD11.3 billion in 2011. This market is expected to grow from USD13.2 billion to nearly USD17.6 billion, a CAGR of 5.9% for the period of 2014 to 2019. According to Frost & Sullivan, the Asia Pacific sensors market is experiencing an increase in demand, earned revenues of over USD337 million in 2009 and expected to reach USD651.5 million in 2016. In fact, an increasing demand for sensors in Australia, New Zealand, and South East Asia is anticipated. In Malaysia, there were more than 1.8 million metric tons of the scheduled waste were recorded in 2010, which primarily found in sewage treatment plants (49.27%), manufacturing industries (42.57%), animal farms (3.7%), and agro-based industries (42.57%). As of 2010, there was about 20,348 water pollution point sources available in the country although some of the areas were assuming overlapped. This novel sensor chips therefore is targeted to help various authorities in monitoring the environment for a range of purposes.

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