Partnering Opportunity

Profile status : Archived

Technology Offer

Determination of disinfection by-products in drinking water.

Summary

A Romanian research institute, specialized in the research and development of new methods in the analytical chemistry field, has developed a method for determination of more than 20 disinfection by-products from drinking water samples, with useful applications in the water treatment plants field. Currently, the method is available for demonstration. The institute is looking for partners to conclude commercial agreements with technical assistance.

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Details

Description

A Romanian national research institute is specialized in the application of analytical chemistry in three main directions: Environment and Health, Instrumental Analytical Chemistry, Bioenergy and Biofuels. The institute has a remarkable endowment that allows approaching projects from research to stage prototype realization and technology transfer.

Disinfection by-products (DBPs) result from chemical reactions between organic and inorganic matter in water with chemical treatment agents during the water disinfection process. Epidemiological studies have looked and demonstrated the associations between exposure to DBPs in drinking water with bladder cancer, adverse birth

outcome and early-term miscarriages. A careful analysis of these chemical substances is mandatory, in order to respect food safety legislation. In this context, the Romanian institute has developed a method for the determination of disinfection by-products in drinking water.

As compared to other existing conventional methods, the Romanian research institute has developed an environmentally friendly method for determination of more than 20 disinfection by-products (trihalomethanes, iodomethane, haloacetic acids, haloketones, halonitromethanes, haloacetic acids, etc.) from drinking water samples (water treatment plants, drinking water supply systems, etc.). The determined disinfection by-products belong to chemical groups with different physicochemical and potential toxicological properties. The compounds are extracted using headspace-solid-phase microextraction (HS-SPME) procedure, followed by the analysis with gas chromatography with mass spectrometry (GC-MS).

The Romanian research institute is looking for partners abroad such as environmental analysis laboratories or bottled water producers (SMEs/large companies). The considered partnership refer to commercial agreements with technical assistance (engineering and technical assistance) in the method transfer and implementation on the partner's equipment, as well as, staff training.

Advantages and innovations

The developed method is environmentally friendly, precise and sensitive, allowing to quantify disinfection by-products at very low concentrations (ng/l).
The innovative aspect of the method consists in the possibility of simultaneous determination of more than 20 disinfection by-products in drinking water.

Stage of development

Available for demonstration

IPR Status

Patent(s) applied for but not yet granted

Comment Regarding IPR status

The patent has been applied for the Romanian State Office for Inventions and Trademarks.

Profile Origin

COSME

Keywords

Technology

05001001	Analytical Chemistry
05004002	Extraction

Market

08004004	Other pollution and recycling related

NACE

M.72.1.9 Other research and experimental development on natural sciences and engin

Network Contact

Issuing Partner

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Open for EOI: No

Dissemination

Relevant sector groups

Environment

Client

Type and Size of Organisation Behind the Profile

R&D Institution

Year Established

1992

Turnover

<1M

Already Engaged in Trans-National Cooperation

Yes

Languages Spoken

Romanian
English

Client Country

Romania

Partner Sought

Type and Role of Partner Sought

Type of partner sought:
- Environmental analysis laboratories, accredited in water testing and analysis, interested to use the method for the determination of disinfection by-products in drinking water.
- SMEs or large companies, active in the production of bottled water, that have to comply with the legislation in force regarding the admissible water pollution levels.

Under the commercial agreement with technical assistance, the sought partners should implement the method for drinking water quality monitoring, using appropriate types of equipment and qualified personnel. The Romanian Institute will support the partner with technical consultancy regarding the use of appropriate equipment and/or its purchase as well as with the know-how transfer of the method and staff training.

Type and Size of Partner Sought

SME 11-50,SME <10,>500 MNE,251-500,SME 51-250,>500

Type of Partnership Considered

Commercial agreement with technical assistance

Attachments