

Removal of Metronidazole from Water Using a Flowing Plasma Brush

About the solution

The offer concerns an innovative method for removing metronidazole from aqueous solutions using a flowing plasma brush of the FLA-dc-APGD or FLC-dc-APGD type, generating cold atmospheric pressure plasma.

The process is carried out in a continuous flow system in which the treated solution acts as a liquid anode or cathode depending on electrode polarization. Interaction with reactive plasma species enables effective degradation of metronidazole while reducing its biological activity.

The technology allows continuous operation and overcomes limitations of batch plasma systems. It is suitable for the treatment of pharmaceutical and hospital wastewater as well as other water streams contaminated with chemotherapeutic residues.

Technology readiness level

TRL 4 - Technology validated in laboratory conditions.

IP Protection

The invention is protected by a patent application in the Polish Patent Office under the number: **P.450621**.



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Applications

- Removal of metronidazole from aqueous solutions,
- Treatment of hospital and industrial wastewater,
- Water treatment processes.

Cooperation opportunities

- Plasma technology licensing,
- Joint R&D and process scale up,
- Pilot testing and implementation.