

Plasma activated water (PAW)

Principles

Plasma activated water (PAW) is generated when plasma is discharged into the water or above the water surface, forming highly reactive species such as O_3 , H_2O_2 , and NO_3^- (RNOS), which are important factors in PAW treatments.

Benefits



Environmentally friendly compared with traditional chemical sanitizers



Less heat consumption compared with traditional heat treatments



Scale-up application



Efficient for heat-sensitive samples



Ease of application



Residue-free



Challenges

- Complex definition of process conditions and devices constructions for food application.
- Unease of process conditions control.
- Chemical changes of the food components cause undesirables odors and off-flavors of food.
- Legislation implementation and regulation.