

Aerosol과 공기 청정 기술 요약

Part 1. Introduction of aerosol

- **What is aerosol?** : A suspension of solid or liquid particles in a gas.
- **Aerosols and health**
: Aerosol particles smaller than 2.5 μm induce lung disease.
- **Air Purifier (or Air Conditioner)**
: Aerosols can be removed by air filters in a purifier or an air conditioner.

Part 2. Mechanism of fibrous air filter

- **Mechanism of fibrous air filter: Mechanical mechanism**
: There are four mechanisms such as gravitational settling, inertial impaction, interception, and diffusion.
- **Mechanism of fibrous air filter: Electrostatic mechanism**
: Electrostatic force is induced by Coulombic force and image force.
: The electrostatic filter media is highly effective in filtering fine particles, while maintaining low pressure drop.

Part 3. Inactivation of bioaerosol using plasma

- **What is bioaerosol?**
: Bioaerosols are aerosols of biological origin (Bio + Aerosol).
- **What is plasma**
: A plasma is a **ionized gas** consisting of a lot of **ions** and **electrons**.
- **Mechanism of inactivation**
 - 1) Heat (minor role)
 - 2) charged particles (electrons, ions)
 - 3) electric field (minor role)
 - 4) UV photons
 - 5) reactive species