



Landcent

# Development and Application of a Novel Antimicrobial Biosafety Material

## Allicin E

Founded in 2011, Landcent is committed to advancing vector control products and pioneering innovative biosafety materials. Currently, in collaboration with CAS Shanghai Institute of Organic Chemistry, Landcent is actively engaged in the development of a novel disinfection ingredient - Allicin E (i.e., Ethylicin).

Allicin E represents a high-efficiency, rapid-acting, and safe plant-based bionic component, serving as a key element in Landcent's patented technological disinfectants, specifically engineered to deliver broad-spectrum antibacterial, antifungal, and antiviral effects across various sectors including public health, agriculture, and medical facilities. The Allicin E disinfectant is presently undergoing the 'Three New Disinfection Compliance' application process in China.

Allicin E, a plant-based bionic active ingredient, is a derivative and analog of Allicin (a natural compound extracted from garlic).



Allicin E possesses distinctive attributes, including broad-spectrum antibacterial and antiviral effects, low toxicity, and a reduced tendency to develop drug resistance. Its origins trace back to the 1950s when scientists at CAS utilized Allicin as an antibacterial agent in agriculture. Through continuous development and innovation over several decades, Allicin E has evolved into a novel disinfection agent, displaying an expansive range of effects, encompassing antibacterial, bacteria inhibition, antifungal, antiviral, antiparasitic, anti-mycoplasma, and anti-chlamydial capabilities.

As an innovative disinfection molecule, Allicin E offers a range of advantages:

- **Broad-spectrum and high efficiency:**  
Demonstrates exceptional efficacy in eradicating both Gram-negative and Gram-positive bacteria.
- **Safety and reliability:**  
Exhibits low toxicity with minimal side effects, non-flammability, and low corrosion.
- **Long-lasting effect:**  
Its active components volatilize slowly, ensuring sustained and effective disinfection.
- **Versatility across temperatures:**  
Shows resistance across a wide range of temperatures, maintaining stability and solubility in both water and low-temperature diluents.
- **Environmental friendliness:**  
Possesses a degradation half-life in soil of 2.7 to 5.2 days, demonstrating excellent environmental degradability.