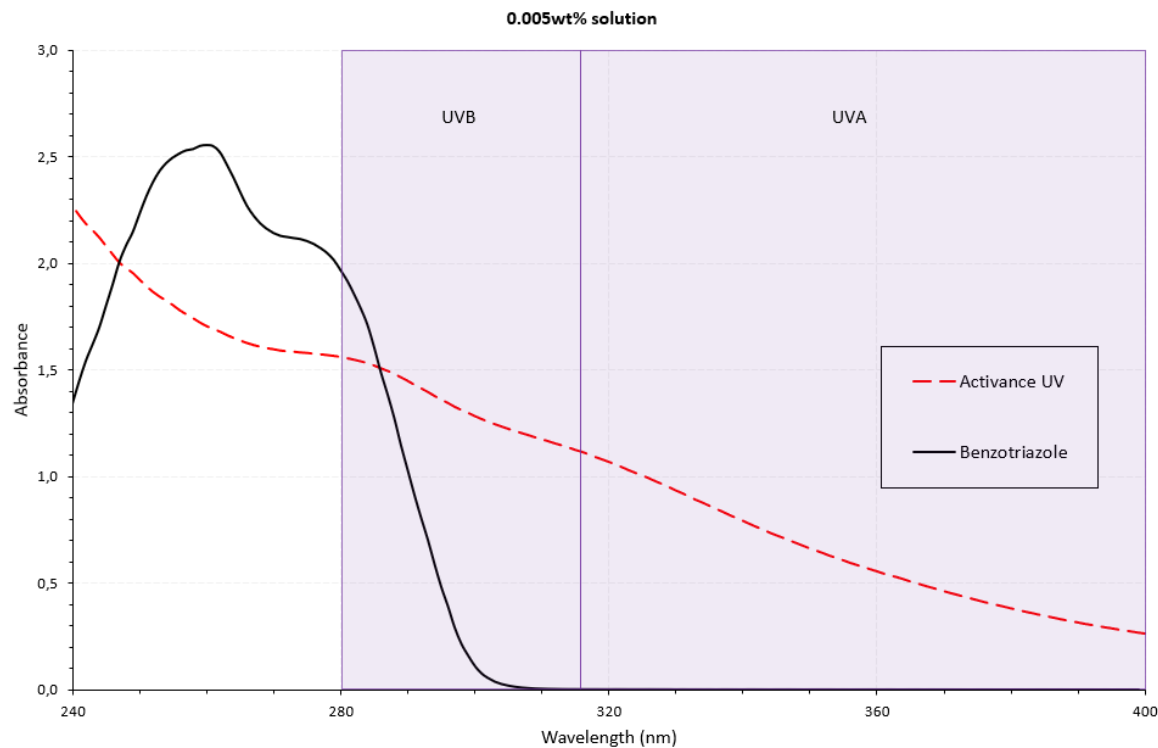


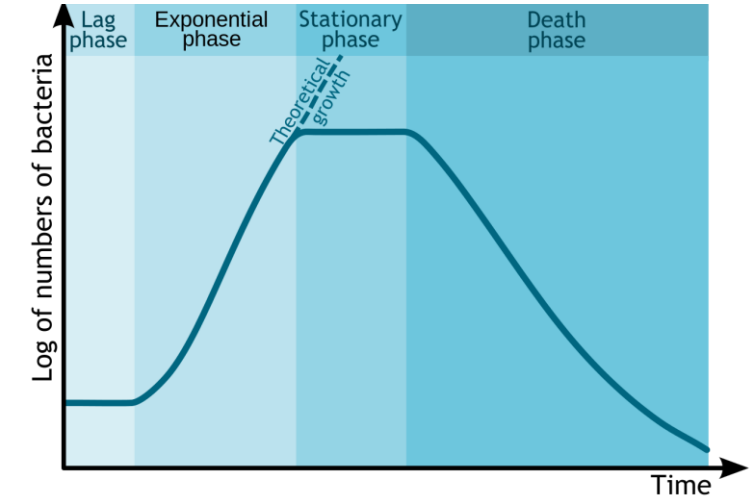
Activance UV for UV-Protection

Protocol – Compatibility and UV-protection with Lignin Biopolymers

- Microbe in stationary phase mixed with **Activance® UV**
- **Quantitative:** Colony forming units (CFU) count



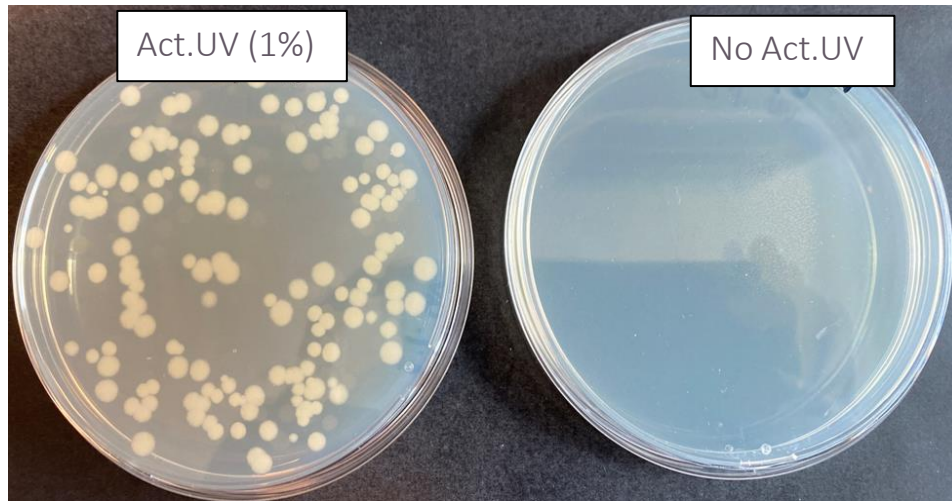
Radiation time = 3-4 hr, 300-400 nm, Irradiance = 40 W/m², temperature ≈ 45°C



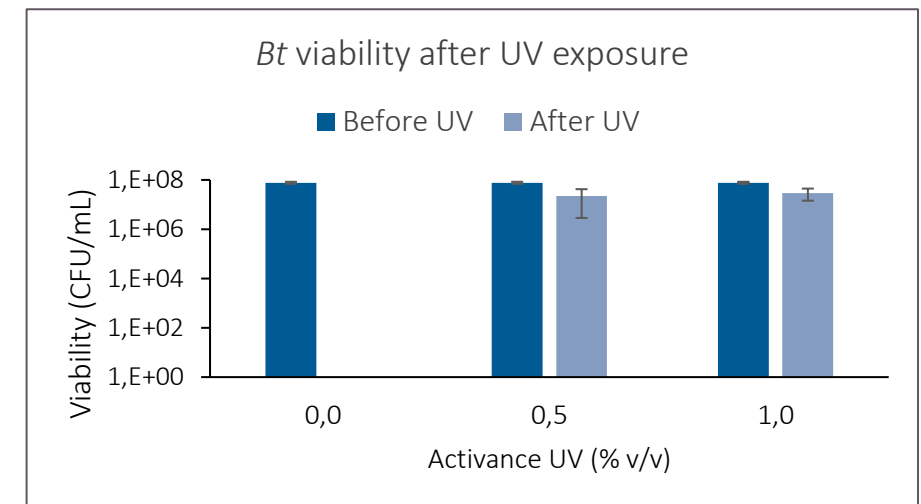
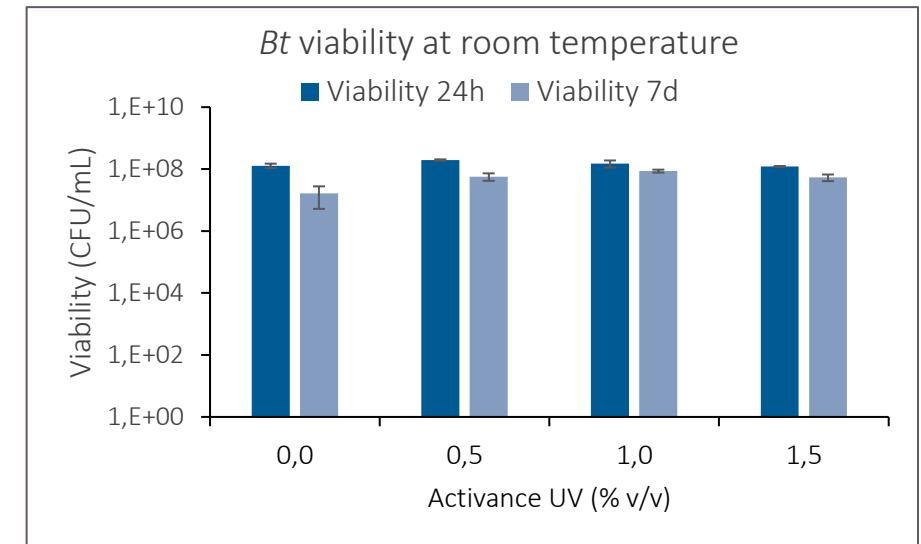
Atlas Suntest XLS+

Bacillus thuringiensis (Bt) – Compatibility and UV-protection

- Storage at room temperature
 - Improved viability on storage in presence of **Activance® UV**
- UV-protection
 - No viability in absence of Activance UV (Control)
 - Viability maintained in presence of Activance UV

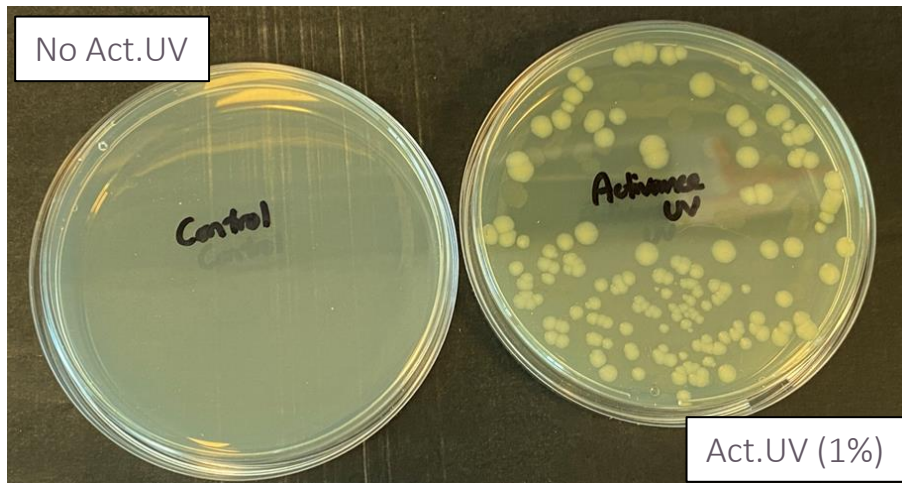


Exposure time = 4 hr, 300-400 nm, irradiance = 40 W/m²; temperature ≈ 45°C



Pseudomonas fluorescens (Pf) – Compatibility & UV-protection

- Gram negative bacteria, non-spore forming, bio-fungicide
- Storage at room temperature
 - Viability maintained after 24h with Activance® UV
- UV-protection
 - No viability in Control
 - Viability observed in presence of Activance UV



Exposure time = 3 hr, 300 – 400 nm, irradiance = 40 W/m², temp ≈ 45°C

