

# Edexcel Biology International A-level

## CP 09 - Antimicrobial properties of plants

### Flashcards



State 6 aseptic techniques.



## State 6 aseptic techniques.

- Wipe down surfaces with antibacterial cleaner, before and after experiment
- Use a Bunsen burner in the work space so that convection currents draw microbes away from the culture.
- Flame the wire hoop before using it to transfer bacteria.
- Flame the neck of any bottles before using them to prevent any bacteria entering the vessel.
- Keep all vessels containing bacteria open for the minimum amount of time.
- Close windows and doors to limit air currents.



# How is a plant extract prepared?



## How is a plant extract prepared?

Grind the selected plant sample into a paste then add a few  $\text{cm}^3$  of ethanol.



# How is the control of the practical set up?



How is the control of the practical set up?

Dip a filter paper disc in ethanol and place on the agar plate.



# Why is bacteria incubated at 25°C?





Why is bacteria incubated at 25°C?

To prevent the growth of pathogens (harmful bacteria), which occurs at higher temperatures.



How can you compare the effectiveness of different extracts applied to the same bacteria?



How can you compare the effectiveness of different extracts applied to the same bacteria?

Measure the diameter and calculate the area of the zone of inhibition (clear zone) on the agar.



What does the zone of inhibition indicate?



What does the zone of inhibition indicate?

It indicates the bacteria killed by the antibiotic.  
The larger the zone the more effective the antimicrobial properties of the plant.



State the hazards and precautions of this practical.



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Naked flame: keep away from flammable materials, tie hair up, wear goggles

Bacteria is a biohazard, use disinfectant and wash hands, dispose of bacteria safely

Disinfectant is flammable, keep away from naked flame



Why should the lid not be completely taped to the petri dish?





Why should the lid not be completely taped to the petri dish?

To allow oxygen to enter the petri dish, preventing the growth of harmful anaerobic bacteria.



Why is the petri dish incubated upside down?



Why is the petri dish incubated upside down?

To prevent condensation from forming on the lid and dripping down onto the agar.



Describe the graph that can be plotted from the results of this practical.



Describe the graph that can be plotted from the results of this practical.

A bar chart of zone of inhibition against plant extract.

