

The properties of the halogens

Education in Chemistry

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rsc.li/EiC118-preciouswater

Experiment, ages 11–14 (science club) and 14–16 (class)

The halogens are important elements. They are used in a huge number of chemicals that are useful to our everyday lives. Dissolved in water, and even in their elemental forms as Cl_2 , Br_2 and I_2 , they can act as antibacterial agents.

This standard microbiology practical lies at the interface of chemistry and biology. Place discs soaked in the halogen waters on bacterial lawns grown on agar plates. Compare the zones of inhibition at a suitable point (which depends on the bacteria used) to determine which halogen has the best antibacterial action.

Encourage pupils to think about exactly what they need to record in order to give the best account of their experiment.

When I trialled this, I used standard bench halogen waters (made according to CLEAPSS recipes, the iodine was a solution in potassium iodide) and *Staphylococcus aureus*. After a week, the bromine water showed the largest zone of inhibition.

We would love to see your results from this experiment, do tweet us (@RSC_EiC) or post a comment on this article.