

The properties of the halogens: Questions



Education in Chemistry

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These questions accompany the above article 'Precious Water'.

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.

Our choice of chemicals for everyday uses is often a balance between different factors. In these questions we will consider how the properties of the different halogens influences our choice of where we use them.

1. Bromine is often more effective than chlorine at killing bacteria found in swimming pools. It is commonly used to disinfect hot tubs. Suggest why, despite its superior antibacterial action, bromine isn't used in swimming pools.
2. Compounds of chlorine, rather than chlorine itself, are added to swimming pools to help keep the water clean. Using knowledge about its physical properties, suggest why elemental chlorine is not used in swimming pools.
3. Surgeons swab patients' skin before surgery with an iodine solution. Suggest why iodine is used for this purpose and not chlorine.