

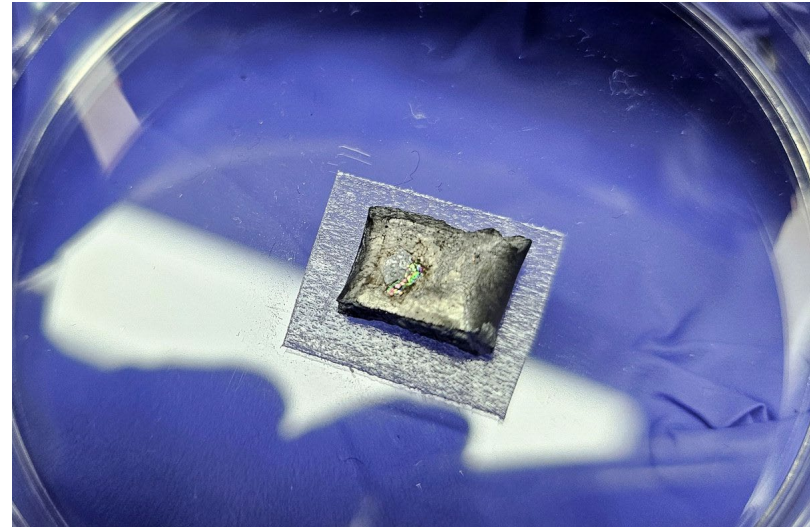


Diamonds made without the mines

Slide by Neil Goalby. Available from rsc.li/4aEmpug

99% of synthetic diamonds are made by placing a small seed diamond on iron sulfide and heating it to 1600°C in the presence of a carbon source at extremely high pressure. The carbon source converts into diamond and grows around the original seed.

Scientists in South Korea have developed a new method to make diamonds at atmospheric pressure. Inspired by previous experiments where methane was passed over metal mixtures containing liquid gallium to form graphite. They found that by changing the metal mixture they could make diamond this way. They are still optimising the process to produce higher-quality diamonds.



Once molten, this metal mixture has sparkling potential

Questions

1. What property of diamonds make them useful in drills?
2. Describe the structure of diamond.
3. Suggest an advantage of producing synthetic diamond using this new process.