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NIIST scientist gets U.S. patent for fluorescent material

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Imagine using water as an ink for writing. Or a security label which responds to moisture by changing colour.

A fluorescent paper that self-erases anything written on it will be an invaluable tool for temporary storage of sensitive data. But if you thought all this is in the realm of science fiction, you could be wrong.

A scientist at the National Institute for Interdisciplinary Science and Technology (NIIST), a constituent laboratory of the Council for Scientific and Industrial Research (CSIR) here, has secured a U.S. patent for a fluorescent material that lends itself to various uses such as security labelling, detection of counterfeit currency, and self-erasable writing.

A. Ajayaghosh, Outstanding scientist at the Chemical Science and Technology Division at NIIST, who recently won the World Academy of Sciences annual award, has been granted the U.S. patent for the process of preparing the fluorescent material that breaks its molecular assembly on exposure to moisture and changes colour.

The paper made out of this material can be used to write self-erasable messages using water as an ink or preparing fluorescent security labels to check the authenticity of important documents such as visa.

"On touching with a wet finger, the blue fluorescence changes to green and back again to blue on drying," says Dr. Ajayaghosh. The change of colour will be visible under ultraviolet light only.

A currency note printed using the fluorescent material will show a change of colour under UV light, on being touched with a wet finger.

A paper made from the material can be used to store temporary data when it is written with a water pen. The written matter is self-erased in six hours or on exposing the paper to hot air. Dr. Ajayaghosh says the use of water pen on self-erasable paper will make it an environment-friendly option. He has already received several enquiries on transfer of technology.

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