

# Ink with a Time-Dependent Erasable Nature and Corresponding Delivery Device

**A new ink formulation offers a temporary erase window (15 minutes to 2 hours) before curing permanently, providing a drop-in replacement for common marking instruments in high-value testing and other applications.**

Currently, it is the job of test administrators and instructors to ensure that cheating does not occur. Not only does cheating go undetected, but often, the administrators and instructors are at the heart of the cheating scandal. As such, this level of security is not sufficient. While some standardized exams are moving to online systems, it is not feasible to have many high value exams, e.g., state standardized tests, ACT, SAT, performed in a computer-based environment due to the high cost of implementation.

Researchers at Purdue University have developed an ink formulation that allows the ink to be erased for a given period of time (15 minutes to 2 hours), which is tunable based on the ink composition. Furthermore, this ink contains carbon black, which makes it readable by automated standardized testing scanners. As a result, this ink formulation could act as a drop-in replacement for No. 2 pencils and other commonly used marking instruments with very little pushback.

## **Advantages:**

- Erasable yet will cure to a permanent ink
- Compatible with No. 2 pencil

## **Potential Applications:**

- Standardized testing
- Artist inks

**TRL: 3**

## **Intellectual Property:**

## **Technology ID**

2015-BOUD-67023

## **Category**

Chemicals & Advanced  
Materials/Specialty &  
Performance Chemicals  
Materials Science &  
Nanotechnology/Advanced  
Functional Materials  
Education & EdTech/Interactive  
Student Engagement  
Technologies

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