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Information from Battelle

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RICHLAND, Washington---A paint that is virtually impossible to remove has been developed at Battelle's Pacific Northwest Laboratories.

"The paint can be used to help reduce theft by permanently marking small tools, office equipment, heavy equipment, unique art objects and personal property." said inventor Earl C. Martin. Martin is a senior research scientist in Battelle's Chemical Technology Department.

Dr. Marilyn E. Walsh, of Battelle's Human Affairs Research Center in Seattle, said estimates of theft from businesses run as high as $75 billion annually. "Much of this loss can be attributed to the inability of firms to trace and identify their property." said Walsh. She added that a permanently affixed paint, such as that developed by Martin, could significantly aid businesses in theft detection and prevention.

"In 1980," Walsh said, "The reported theft of office equipment alone amounted to almost $1 billion. We think that number is somewhat conservative, especially where large government agencies are concerned. In some cases, thefts aren't even noted. Recently, 30 IBM typewriters belonging to a government agency were recovered. The agency didn't even know the equipment had been stolen." Walsh is acting director of the Law and Justice Study Center at HARC.

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The paint can be applied to metal, wood, plastic or rubber items. "It is extremely difficult to completely remove the paint -- even from a relatively smooth metal surface," Martin said. "If you get it on your hands, you just have to wait for it to wear off."

Martin said each customer's paint is mixed with different combinations of chemical ions that are as unique as fingerprints. Three methods can be used to identify the paint and suspected stolen property.

The first level of identification is the paints color. "The paint comes in a wide variety of colors for quick, visual identification of property," Martin said. "For example, at Hanford, we use a bright orange. And at Los Alamos National Laboratory in New Mexico, a yellow paint is used."

The second level of detection uses ultraviolet light. Fluorescing materials are mixed with the paint so it will glow when placed under an ultraviolet lamp.

The final and most precise level of identification uses x-ray fluorescence. "In about three minutes, this method allows us to positively identify this unique paint," said Martin.

Martin added that the paint can also be applied so it is "invisible." He said, "This method could be used for protecting art objects such as paintings, vases and rugs that one would not want to deface."

Originally developed to identify government property on the Department of Energy's Hanford site in southcentral Washington State, the paint is now used at the Los Alamos National Laboratory in New Mexico and on several corporate farms near Hanford.

A Battelle sponsor is exploring commercialization of this concept as a significant addition to industrial security.

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