



## TECHNOLOGY

# Fe Oxide Paint Composition for IRIS Tubes

## OVERVIEW

For soils to be considered hydric, they must demonstrate both saturation and anaerobic conditions in the upper part of the soil. Although several technologies are available for monitoring of soil water tables, documentation of reducing conditions is more problematic. This has led to recent interest in the use of IRIS (indicator of reduction in soils) tubes. IRIS tubes are lengths of PVC pipe coated with ferrihydrite paint, which are inserted into the soil to document reducing conditions.

The ferrihydrite coating used in current IRIS tubes is removed from the PVC substrate on exposure to hydric soils. Researchers at the University of Maryland have modified the coating composition to contain percentages of goethite and this adheres well to the PVC.

The goethite in IRIS paint forms as lath-shaped crystals up to several hundred nm in length. These elongated crystals appear to contribute strength and cohesion to the paint coatings on IRIS tubes in a manner analogous to adding hair or straw to plaster. This helps to prevent sloughing and increases the durability of paint applied to PVC IRIS tubes.

For licensing information please contact 301-405-3947 or by e-mail at [otc@umd.edu](mailto:otc@umd.edu)

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## Additional Information

### INSTITUTION

University of Maryland, College Park

### PATENT STATUS

Patent(s) pending

### LICENSE STATUS

Contact OTC for licensing information

### CATEGORIES

- Chemical

## EXTERNAL RESOURCES

- [US Patent 7,550,297](#)

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