

Technical Data Sheet

Uranin AP (C.I. 45350)

for the examination of subterranean waters

Order Number: LC-4404

Uranine, the sodium salt of fluorescein (also known as Acid Yellow 73), is a reddish-brown, powdered fluorescent dye that dissolves excellently in water, staining it yellow-green to green fluorescently even at high dilutions (up to 1:100 million). Since uranine is also non-toxic, environmentally safe and biodegradable, it is the dye of choice for investigating water flows.

The duration of the staining depends on the environmental conditions (light, soil, pH); in general, however, the staining is no longer visible in nature after a few days. The reason: uranine is light-sensitive and decays completely within a few days under the influence of daylight. Uranine also decomposes rapidly in chlorinated water (swimming pool). Due to its low tendency to adhere to rock surfaces, uranine is ideally suited for investigating underground water flow paths in particular.

Caution: Uranine solutions must not be allowed to enter the drinking water system and use in public waters must be clarified with the relevant authorities.

Application

- x Leak testing (leak detection) of flat roofs, walls and pipes in cooling, heating and tank systems.
- x Visualization of flow behavior/chemical distribution in swimming pools.
- x Tracer in hydrogeology; for tracing (ground) water flows, seepage and underground river courses.
- x As a dye in hygiene products (bath additives).

Depending on the area of application and turbidity, a working concentration of 0.01 g uranine/m³ water (dilution 1:100 million, corresponding to 10 mg/L) to 20 g/m³ is useful. For most applications, concentrations of 10 - 100 mg/L have proven effective. Since uranine is very soluble in water, it is often advisable to prepare a concentrated stock solution of up to 500 g/liter (i.e., 500,000 g/m³). Gloves should be worn when handling the solid.

For better visualization of the uranine-stained water (especially for leak detection in pipe systems), the use of a UV lamp is recommended.

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