Glycol Leak Detection

in HVAC Systems and Data Centers

Glycol-based coolants — including ethylene glycol and propylene glycol — are widely used in HVAC systems, data center cooling infrastructure, and high-voltage transformer cooling systems. Heat exchangers, chiller circuits, and cooling loops all rely on glycol as a heat transfer fluid. Many of these systems are installed outdoors — on rooftops, in plant rooms open to the elements, or at transformer substations — where leaks can be washed directly into storm drains, soil, and local waterways long before they are ever noticed.

Key Benefits

- **Continuous real-time monitoring for ethylene glycol and propylene glycol leaks**
- **Trace detection down to ppb concentrations**
- **Protects groundwater, drinking water, and surface water from contamination**
- **Early detection at the source — before glycol is carried off-site by rainfall or runoff**
- **Measurement cell or probe installation options**
- **Robust performance — no false positives from rust, air bubbles, or particulates**
- **Ultra-low maintenance, no reagents required**

The Environmental Risk

Both ethylene glycol and propylene glycol are water-soluble and can readily enter groundwater, drinking water supplies, and surface water via runoff. Outdoor systems are particularly vulnerable: even a slow drip can go undetected for extended periods, with rainwater continuously carrying glycol off-site. Early detection is therefore critical — to meet environmental protection requirements and prevent contamination before it occurs.

The ROI Case

HVAC systems and data centers alike face growing regulatory scrutiny over environmental and water impact. A glycol leak that contaminates local water supplies carries legal and reputational consequences that can far exceed the investment in monitoring equipment. Brand damage following a publicized incident can be lasting and difficult to recover from.

Trace Detection at the Source

The Kemtrak glycol detector provides continuous, real-time monitoring at trace concentrations. Many glycol products are pre-dyed by the manufacturer — ethylene glycol coolants commonly contain fluorescein, giving their characteristic green color. By monitoring for dye markers in condensate return, drain water, or surface runoff, even the smallest leaks are identified the moment they occur. The detector is available as a flow-through cell or in-line probe, with detection down to parts-per-billion (ppb) concentrations.

Reliable Performance in Demanding Conditions

Outdoor cooling systems can present challenging conditions, including air bubbles, rust particles, and other particulates in the sample stream. The Kemtrak glycol detector performs reliably in the presence of these interferences, avoiding false positives. With no reagents required and an ultra-low maintenance design, it delivers continuous protection without placing demands on operations staff.

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