



ELTEC INSTRUMENTS, INC.

ELTECdata #164 **Handling and Storage of Eltec Detectors with Coated Filters**

Detectors with filters supplied by Eltec Instruments, Inc. are designed and manufactured to withstand the most stringent environmental conditions. However, all optical components deserve special consideration in handling, caring and storage. All detectors, including the filters, are inspected prior to shipment and packaged in special protective containers. No extra cleaning should be necessary upon receipt. All unnecessary handling of filters should be avoided to reduce the possibility of damage. Use of laboratory gloves or individual finger cots prevents oils from your hand contaminating the detector filter. Reports show the use of cleaning chemicals and solvents can damage the filter. Please note incorrect cleaning methods and storage conditions will lead to damage of the filter coating, thus reducing the optical performance and life cycle of the detector.

To maintain detector filters in good condition:

Eltec recommends cleaning the filter only when necessary. If the environment is particularly dusty, more regular cleaning may be warranted.

If the detector filter has dust on its surface, filtered compressed air or nitrogen is the best, but canned compressed air or a bulb blower can be used to clean it.

If the detector filter surface is dirty or stained, it can possibly be cleaned. In most normal cases, filters may be cleaned with a solution of lukewarm water and mild detergent, providing the substrate and/or the coating is not water soluble, according to the following procedure:

- Wet a soft lens cleaning tissue with water/mild detergent solution and wipe the filter surface gently until the surface is clean.
- Rinse off with distilled water and immediately wipe dry with a soft lens cleaning tissue.
- If the filter is left to dry in air, permanent drying stains may appear.

Impurities that are not cleaned with the water/mild detergent method or if the substrate/coating is soluble in water, may be cleaned with isopropyl alcohol or acetone, according to the following procedure:

- Wet a soft lens cleaning tissue with the solvent and wipe the surface several times until the surface is clean.
- Thereafter, immediately wipe dry with a dry soft lens cleaning tissue.

For simplicity, we suggest you apply acetone or alcohol to a soft tissue and then rub the filter using a circular motion.

Note the purpose of solvent is to dissolve the viscous attachment on the detector filter surface. The cleaning intensity applied to the surface layer of the detector filter should not be as intense as an uncoated filter. Be aware that any cleaning may degrade the surface of the detector filter at the microscopic level.

Environmental storage conditions considerations:

- It is best to store detectors with filters in a dry storage cabinet in the original shipping packages.
- Detectors with filters should not be stored loosely in bins to avoid scratches to the coated surface of the filter.
- It's important to avoid prolonged exposure to high humidity (greater than 70%) and large temperature variations.
- To reduce the risk of damage due to thermal shock, Eltec recommends a maximum storage temperature of 125°C and a maximum temperature change of 50°C per minute.

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ELTEC Instruments, Inc. P.O. Box 9610 Daytona Beach, Florida 32120-9610 U.S.A.
Tel (USA and Canada): (800) 874-7780 Tel (Outside USA): (386) 252-0411 Fax: (386) 258-3791
Web: www.eltecinstruments.com E-Mail: Sales@eltecinstruments.com