



## APPLICATION NOTE – PHARMACEUTICAL TAMPERING

**Application Need:** There is growing concern that controlled narcotics are subject to theft and tampering in medical facilities to include hospitals. Pharmaceutical solutions that are returned back to the hospital pharmacy after administering to patients need to be checked for product purity and possible tampering or theft.

**The Problem:** In many medical and hospital facilities, controlled narcotics are checked out at the beginning of a shift. At the end of the shift, the remaining substance not used is turned back in. The pharmacist needs an effective way to determine the substance purity. The most common form of tampering is substituting another solution (distilled water) for the narcotic. Unknown acceptance of a diluted narcotic results in theft and illegal possession/addiction of the narcotic. Also important, the effectiveness of the controlled substance is compromised for other patients that this drug is dispensed to at a later date.

**The Solution:** The Reichert AR200 portable digital refractometer will accurately and precisely measure the refractive index of the controlled substance. The refractive index is a physical property of the substance and can be viewed as the “fingerprint” of the sample regarding its state of purity. Any changes in refractive index will immediately indicate that the purity of the sample has been tampered. ✓ Easy to use by personnel with limited laboratory training.

- ✓ Widest measurement range (1.3300 to 1.5600 Refractive Index based measurements, 0 to 100% Brix) ✓
- Measures purity of Morphine Sulfate, Meperidine, Diazepam, Phenobarbital, Codeine, and Lorazepam. ✓
- Automatic digital readout that eliminates any operator error or interpretation. ✓ Accuracy of a benchtop refractometer (0.0001nD and 0.1%). ✓ Operates on 4 AAA batteries with a sleep mode that conserves energy.
- ✓ Optional IR Communications package that allows readings to be logged into a laboratory/office computer providing for electronic record keeping.

### **Product Recommendations:**

**AR200** Digital Handheld Refractometer, Reichert Cat # 13950000