

# Ti Application Note No. T- 33

**Title:** Lidocaine in ointments

**Summary:** Determination of lidocaine in ointments by potentiometric titration with sodium tetraphenylborate using the NIO surfactant electrode.

**Sample:** Ointment containing lidocaine

**Sample Preparation:** Weigh a sample containing ca. 25 ... 50 mg lidocaine into a beaker. Add 5 mL methanol and heat carefully until the emulsion has been destroyed or dissolved, then add 90 mL dist. water.

**Instruments and Accessories:** 702, 716 or 736 Titrino or 726 Titroprocessor, 6.0507.010 NIO surfactant electrode and 6.0726.100 reference electrode (bridge electrolyte c(NaCl) = 3 mol/L)

**Analysis:** Add two drops of glacial acetic acid to the prepared sample solution and titrate with sodium tetraphenylborate c(STPB) = 0.01 mol/L.

**Calculation:** % lidocaine =  $EP1 * C01 * C02 * C03 / (C00 * C04)$

EP1 = titrant consumption in mL

C00 = sample weight in g

C01 = 0.01 (concentration of the titrant in mol/L)

C02 = titre of the titrant

C03 = 234.33 (M(lidocaine) in g/mol)

C04 = 10 (conversion factor for %)

**Remarks:**

- C03 is 270.79 if the result refers to lidocaine hydrochloride (M(lidocaine hydrochloride) = 270.79 g/mol).
- If the sample is present in solution no sample preparation is necessary.