

**IODINE SOLUTION****PREPARATION**

Iodine 0.1 *N*: Weigh 40 g of potassium iodide (KI) in a 500 mL glass-stoppered flask and dissolve in 100 mL of purified water. Let the solution come to room temperature, add 12.7 g of resublimed iodine (I<sub>2</sub>), restopper the flask, and swirl the flask until the iodine is completely dissolved. Transfer the solution quantitatively to a 1 L volumetric flask, add 3 drops of hydrochloric acid (37% HCl; sp g 1.19) and dilute to 1 L with purified water. Mix thoroughly and transfer to a glass-stoppered alkali-resistant, amber-colored bottle. Iodine 0.01 *N*: Dilute 100 mL of 0.1 *N* iodine to 1 L in a volumetric flask.

**STANDARDIZATION**

Iodine 0.1 *N*: Weigh accurately 0.18-0.22 g arsenious trioxide (As<sub>2</sub>O<sub>3</sub>) (dried 1 hr., 105 °C) National Institute of Science and Technology, U. S. Department of Commerce Sample 83, in a 250 mL Erlenmeyer flask. Dissolve in 10 mL of 1.0 *N* sodium hydroxide (NaOH) and add 75 mL of purified water. Add 10 mL of 1.0 *N* hydrochloric acid (HCl) and 20 mL of a saturated sodium bicarbonate (NaHCO<sub>3</sub>) solution. Add 2 mL of starch indicator and titrate with iodine solution to appearance of the first permanent blue tinge.

$$\text{Normality} = \frac{(\text{Wt. As}_2\text{O}_3, \text{g})(1000)}{(\text{Titer, mL})(49.46)}$$