

UNITED STATES DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
WASHINGTON 25, D.C.

National Bureau of Standards
Certificate

Standard Sample 17
Sucrose

Moisture.....	less than 0.01%
Ash.....	0.003%
Reducing substances, estimated as invert sugar.....	less than 0.02%

Each 100 ml of a normal sucrose solution contains 26.000 g of dried substance, weighed with brass weights in air (760 mm pressure, 20 °C, 50 percent relative humidity). At 20 °C, this solution in a 200-mm polariscope tube reads 100 °S (International Sugar Degrees). The illumination is white light filtered through a 15-mm layer of a 6-percent solution of potassium dichromate. The International Sugar Scale was defined and adopted by the International Commission for Uniform Methods of Sugar Analysis at the Eighth Session, Amsterdam, 1932 [Intern. Sugar J. **35**, 17 (1933); NBS Circ. 440, p. 79, p. 775 (1942)].

The rotation in circular degrees of the normal sucrose solution observed in a 200-mm polariscope tube, for wavelength 5461 Å is 40.763° and for wavelength 5892.5 Å is 34.617°.

The specific rotations of sucrose for the normal solution are:

$$[\alpha]_{5461\text{Å}}^{20\text{°C}} = 78.342^\circ \quad 26 \text{ g per 100 ml}$$

$$[\alpha]_{5892.5\text{Å}}^{20\text{°C}} = 66.529^\circ \quad 26 \text{ g per 100 ml}$$

[Bul. BS **13**, 67 (1916) S268; NBS Circ. 440, p. 82 (1942).]

For the Director



Chief, Organic Chemistry Section
Physical Chemistry Division

Lot No. 6340
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