

MELTING POINT (741): about 90°.

Inositol (*Hexahydroxycyclohexane*), $C_6H_6(OH)_6$ —**180.16** [87-89-8]—Fine, white crystals or a white, crystalline powder; stable in air. Its solutions are neutral to litmus. Optically inactive. One g dissolves in 5.7 mL of water. Slightly soluble in alcohol; insoluble in ether and in chloroform. Store in well-closed containers.

MELTING RANGE (741): between 223° and 226°.

LOSS ON DRYING (731): Dry it at 105° for 4 hours: it loses not more than 0.5% of its weight.

RESIDUE ON IGNITION (Reagent test): not more than 0.1%.

Iobenguane Sulfate (*m-Iodobenzylguanidine Hemisulfate Salt*), $C_8H_{10}IN_3 \cdot \frac{1}{2}H_2SO_4$ —**324.1**—White powder. Freely soluble in methanol.

ASSAY: When tested by thin-layer chromatography, with the use of plates coated with chromatographic silica gel mixture, a developing system consisting of a mixture of butyl alcohol, water, and acetic acid (60:25:15), and examined under short-wavelength UV light, not more than a single impurity spot of not more than 0.5% is observed.

Iodic Acid, HIO_3 —**175.91** [7782-68-5]—Use ACS reagent grade.

Iodine, I_2 —**253.81** [7553-56-2]—Use ACS reagent grade.

Iodine Monobromide, $I\text{Br}$ —**206.81** [7789-33-5]—Black, gray, or blue-purple crystals, crystalline needles, or crystalline chunks.

ASSAY: Place about 100 mL of acetic acid in a 150-mL beaker. Separately dissolve 2 g of potassium iodide in a minimum volume of water, add this solution to the acetic acid, and mix. Transfer about 200 mg of Iodine Monobromide, accurately weighed, to the beaker containing the potassium iodide and acetic acid mixture, and stir to dissolve. Titrate immediately with 0.1 N sodium thiosulfate VS, determining the endpoint potentiometrically (see *Titrimetry* (541)). Perform a blank determination, and make any necessary correction. Each mL of 0.1 N sodium thiosulfate is equivalent to 20.681 mg of $I\text{Br}$. Not less than 97.5% is found.

Iodine Monochloride, ICl —**162.36** [7790-99-0]—Use ACS reagent grade.

Iodoethane, C_2H_5I —**155.9** [75-03-6]—Use a suitable grade.

p-Iodonitrotetrazolium Violet, (*2-(4-Iodophenyl)-3-(4-nitrophenyl)-5-phenyltetrazolium chloride*), $C_{19}H_{13}ClIN_5O_2$ —**505.70**—Light yellow powder.

ASSAY: When tested by thin-layer chromatography, with the use of plates coated with chromatographic silica gel mixture and a developing system consisting of a mixture of amyl alcohol, formic acid, and water (8:1:1), sprayed with 0.1% sodium thiosulfate solution, and examined under short-wavelength UV light, a single spot is exhibited, with trace impurities.

MELTING POINT (741): 240°, with decomposition.

Ion-Exchange Resin—An intimate mixture of 4 parts of a strongly acidic cation-exchanger in the hydrogen form (produced by sulfonation of a styrene-divinylbenzene copolymer, representing 8 to 10% divinylbenzene) and 6 parts of a strongly basic anion-exchanger in the hydroxyl form (produced by amination with trimethylamine of a chloromethylated styrene-divinylbenzene copolymer, representing 3 to 5% divinylbenzene).

[NOTE—A suitable resin is “Amberlite MB-150,” available from Sigma-Aldrich, www.sigma-aldrich.com.]

Iron (Powder), Fe—**55.85** [7439-89-6]—Use a suitable grade with a content of NLT 99.9%.

Iron Wire, Fe—**At. Wt. 55.847**—Use a suitable grade.

Isoamyl Alcohol—Use *Amyl Alcohol*.

Isobutyl Acetate, $C_6H_{12}O_2$ —**116.16** [110-19-0]—Clear, colorless liquid. Slightly soluble in water. Miscible with alcohol.

ASSAY: Inject an appropriate specimen into a suitable gas chromatograph (see *Chromatography* (621)) equipped with a flame-ionization detector, helium being used as the carrier gas. The following conditions have been found suitable: a 0.25-mm \times 30-m capillary column coated with G2. The injection port temperature is maintained at 130°; the column temperature is maintained at 30° and programmed to rise 10° per minute to 180° and held there for 10 minutes. The detector temperature is maintained at 300°. The area of the main peak is not less than 99% of the total peak area.

SPECIFIC GRAVITY (841): between 0.863 and 0.868.

REFRACTIVE INDEX (831): between 1.3900 and 1.3920 at 20°.

Isobutyl Alcohol (*2-Methyl-1-propanol*), $(CH_3)_2CHCH_2OH$ —**74.12** [78-83-1]—Use ACS reagent grade.

4-Isobutylacetophenone, $C_{12}H_{16}O$ —**176**—Pale yellow liquid. Soluble in chloroform, in glycerols, in alcohols, in ether, and in fatty oils; insoluble in water. Use a suitable grade.

[NOTE—A suitable grade is available from TCI America, www.tciamerica.com.]

N-Isobutylpiperidone, $C_9H_{17}NO$ —**155.24**—Use a suitable grade.

Isoflupredone Acetate (*9- α -Fluoroprednisolone Acetate*), $C_{23}H_{29}FO_6$ —**420.47**—Use *Isoflupredone Acetate* (USP monograph).

L-Isoleucine (*2S,3S*)-2-Amino-3-methylpentanoic Acid, $C_6H_{13}NO_2$ —**131.17** [73-32-5]—Use a suitable grade.

[NOTE—A suitable grade is available as catalog number 12752 from www.sigma-aldrich.com.]

Isomaltotriose (α -D-Glucosyl-(1-6)- α -D-glucosyl-(1-6)- α -D-glucose), $C_{18}H_{32}O_{16}$ —**504.4** [3371-50-4]—White lyophilized powder. Use a suitable grade.

2-Isoniazid (*2-Pyridinecarboxylic acid hydrazide; Picolinic acid hydrazide; 2-Picolinyl hydrazide*), $C_6H_7N_3O$ —**137.14**

[1452-63-7]—Use a suitable grade with a content of NLT 98.0%. [NOTE—A suitable grade is available as catalog number P0426 from www.tcichemicals.com.]

Isonicotinamide (*Pyridine-4-carboxylic Acid Amide*), $C_6H_6N_2O$ —**122.12** [1453-82-3]—Use a suitable grade with a content of NLT 99%.

Isonicotinic Acid, $C_6H_5NO_2$ —**123.11** [55-22-1]—Use a suitable grade.

Isonicotinic Acid Hydrazide—Use *Isoniazid* (USP monograph).

Isooctane—See *2,2,4-Trimethylpentane*.

Isopropyl Acetate, $C_5H_{10}O_2$ —**102.13** [108-21-4]—Use a suitable grade.

Isopropyl Alcohol (*2-Propanol*), $(CH_3)_2CHOH$ —**60.10** [67-63-0]—Use ACS reagent grade.