

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

CERTIFICATE
FOR
STANDARD SAMPLE NO. 218
METHYLCYCLOHEXANE

MATERIAL

This lot of methylcyclohexane was prepared at this Bureau by purification^a of commercial material of original high purity. The amount of impurity in the final product was determined from measurements of freezing points to be 0.10 ± 0.05 mole percent^a.

^a The purification and determination of purity were performed by the NBS Section on Thermochemistry and Hydrocarbons.

DENSITY

The density of a sample of this material was measured in a pycnometer of special design having a volume of 108 ml. The temperature of the bath was maintained constant to $\pm 0.01^\circ\text{C}$. It is believed that the uncertainties in the values of density, which are given in the following table, are less than ± 0.00002 g/ml.

Temperature	20°C	25°C	30°C
Density ^a , in g/ml (For air-saturated material)	0.76939	0.76506	0.76077

^a These measurements were made by the NBS Section on Capacity and Density.

The values of density are on the basis of weights in vacuum, with the sample at a pressure of 1 atmosphere and saturated with air. The density of air-free material is greater than that of air-saturated material by about 0.01 percent. Near 1 atmosphere, the change of density with pressure is of the order of 0.01 percent per atmosphere. For a description of the method and apparatus used, reference is made to the following publications: NBS Technological Paper No. 77, (1916); Bulletin NBS 9, 405 (1913).

REFRACTIVE INDEX

The indices of refraction of a sample of this material were measured with a spectrometer by the minimum-deviation method, by use of a water-jacketed hollow prism mounted in a stirred air bath