

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

National Bureau of Standards

Certificate

Standard Sample Number 594

HYDROCARBON BLEND NUMBER 3

This standard is one of eight mixtures of pure hydrocarbons representative of those occurring in hydrocarbon fuels and blending stocks. These blends are primarily for use in the calibration of mass spectrometers. However, they may be useful in other spectrometric instruments or gas chromatographic techniques.

The hydrocarbons used to prepare this sample are several C₈ paraffins found in typical virgin naphthas. The composition of this blend is given in the following table:

Compound	S. S. Number ¹	Amount of impurity, ² mole %	Volume ³ %
n-Octane	230	0.06 ± 0.04	39 ± 0.1
2-Methylheptane	231	.41 ± .18	19 ± .1
3-Methylheptane	232	.50 ± .23	16 ± .1
4-Methylheptane	233	.12 ± .07	8 ± .01
3-Ethylhexane ⁴	234	.30 ± .20	3 ± .01
2,3-Dimethylhexane ⁴	236	.30 ± .20	4 ± .01
2,4-Dimethylhexane ⁴	237	.30 ± .20	5 ± .01
2,5-Dimethylhexane	238	.30 ± .09	6 ± .01

Notes: ¹ S. S. Number refers to NBS Standard Samples of Hydrocarbons

² Amounts of impurity were evaluated from measurement of freezing points by the procedure described in J. Res. NBS 35, 355 (1945) RP 1676. The indicated uncertainties are estimated limits of error.

³ The indicated uncertainties are estimated from the limits of error of the transfer apparatus used.

⁴ Impurity estimated by analogy with isomers subjected to similar purification.

A. V. Astin, Director

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