



ASTM Method D3606 was developed to quantify benzene and toluene in finished motor and aviation spark ignition fuels. An additional standard is now provided for the 7 level calibration set which includes ethanol at approximately 10% v/v for all 7 levels.



ASTM D3606 Benzene & Toluene in Finished Motor & Aviation Gasoline by GC UPDATED

Aromatics Quantitative Calibration Standards

Without Internal Standards

D-3606-25ML-SET

7 x 25 mL

Analyte	Calibration Range	Std. 1 Target Vol. %	Std. 2 Vol. %	Std. 3 Vol. %	Std. 4 Vol. %	Std. 5 Vol. %	Std. 6 Vol. %	Std. 7 Vol. %
Benzene	0.06 - 5.0	5.00	2.50	1.25	0.67	0.33	0.12	0.06
Toluene	0.5 - 20	20.00	15.00	10.00	5.00	2.50	1.00	0.50
Isooctane		75.00	82.50	88.75	94.33	97.17	98.88	99.44

These are target concentrations and the actual analytical values will be reported on the certificate of analysis.



With Internal Standard: MEK

D-3606-IS-SET

7 x 1 mL

D-3606-IS-2ML-SET

7 x 2 mL

Analyte	Calibration Range	Std. 1 Target Vol. %	Std. 2 Vol. %	Std. 3 Vol. %	Std. 4 Vol. %	Std. 5 Vol. %	Std. 6 Vol. %	Std. 7 Vol. %
Benzene	0.06 - 5.0	4.8	2.4	1.2	0.64	0.32	0.12	0.06
Toluene	0.5 - 20	19.2	14.4	9.6	4.80	2.40	0.96	0.48
Methyl ethyl ketone (Internal Std.)		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Isooctane		72.0	79.2	85.2	90.56	93.28	94.92	95.46

Aromatics Quantitative Calibration Standard

With Internal Standard: sec Butanol

D-3606-IS2-SET

7 x 1 mL

Analyte	Calibration Range	Std. 1 Target Vol. %	Std. 2 Vol. %	Std. 3 Vol. %	Std. 4 Vol. %	Std. 5 Vol. %	Std. 6 Vol. %	Std. 7 Vol. %
Benzene	0.06 - 5.0	4.8	2.4	1.2	0.64	0.32	0.12	0.06
Toluene	0.5 - 20	19.2	14.4	9.6	4.80	2.40	0.96	0.48
sec-Butanol (Internal Std.)		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Isooctane		72.0	79.2	85.2	90.56	93.28	94.92	95.46

Technical Note

Due to the possible use of other oxygenates (i.e. ethanol) in gasoline, a calibration curve using sec-Butanol as an internal standard has been formulated. The use of this internal standard minimizes coelution caused by the oxygenate(s) and pre-column - standard column configuration in the GC system.

Aromatics Quantitative Calibration Curve

D-3606-IS2-R1-SET

7 x 1 mL

Analyte	Calibration Range	Std. 1 Target Vol. %	Std. 2 Vol. %	Std. 3 Vol. %	Std. 4 Vol. %	Std. 5 Vol. %	Std. 6 Vol. %	Std. 7 Vol. %
Benzene	0.06 - 5.0	5	4.2	3.4	2.6	1.7	0.9	0.1
Toluene	0.5 - 20	20	17	14	11	8	5	2
Isooctane		75	78.8	82.6	86.4	90.3	94.1	97.9
sec-Butanol (Internal Std.)		4	4	4	4	4	4	4

Aromatics Quantitative Calibration Curve

UPDATED

With Ethanol and Internal Standard

D-3606-IS2-R2-SET

7 x 1 mL

Analyte	Calibration Range	Std. 1 Target Vol. %	Std. 2 Vol. %	Std. 3 Vol. %	Std. 4 Vol. %	Std. 5 Vol. %	Std. 6 Vol. %	Std. 7 Vol. %
Benzene	0.06 - 5.0	4.8	2.4	1.2	0.64	0.32	0.12	0.06
Toluene	0.5 - 20	19.2	14.4	9.6	4.8	2.4	0.96	2.48
Ethanol		9.6	9.6	9.6	9.6	9.6	9.6	9.6
sec-Butanol (Internal Std.)		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Isooctane		62.4	69.6	75.6	80.96	83.68	85.32	85.86

Daily Gasoline Refinery Quality Control Standards

With Internal Standard: sec-Butanol

D-3606-QC-IS2-25ML

1 x 25 mL

D-3606-QC-IS2-25ML-PAK

5 x 25 mL

Each at stated Vol.%

4 comps.

Benzene	0.64
Toluene	4.80
sec-Butanol (Internal Std.)	4.0
Isooctane	90.56

100

With Internal Standard: MEK

D-3606-QC-IS-10ML

1 x 10 mL

D-3606-QC-IS-10ML-PAK

5 x 10 mL

Each at stated Vol.%

4 comps.

Benzene	0.64
Toluene	4.80
Methyl ethyl ketone (Internal Std.)	4.0
Isooctane	90.56

100

Without Internal Standard

D-3606-QC-25ML

1 x 25 mL

D-3606-QC-25ML-PAK

5 x 25 mL

Each at stated Vol.%

3 comps.

Benzene	0.67
Toluene	5.00
Isooctane	94.33

100