Key comparison CCQM-K35

MEASURAND :   **Mass fraction of Sulfur in diesel fuel**

NOMINAL VALUE :   **~ 42 µg/g**

x_i: **mean of the measurement results carried out by laboratory i**

U_{Labi}:   **expanded uncertainty of x_i at a 95% level of confidence**

k_{Labi}:   **coverage factor, $U_{Labi} = k_{Labi}\ u_i$, with u_i combined**

                    standard uncertainty of x_i

Lab i	x_i / (µg/g)	U_{Labi} / (µg/g)	k_{Labi}
BAM	42.29	0.26	2
IRMM	42.92	0.36	2
LGC	41.36	1.7	2
NIST	41.57	0.39	2.31

Key comparison CCQM-K35

MEASURAND :   Mass fraction of Sulfur in diesel fuel
NOMINAL VALUE :   ~ 42 µg/g

The key comparison reference value, x_R, is computed as the Mixture Model median of all results (see page 11 of the Final Report). Its expanded uncertainty at a 95% level of confidence is denoted U_R ($k = 2$).

x_R = 42.17 µg/g and U_R = 1.32 µg/g

The degree of equivalence of laboratory i relative to the key comparison reference value is given by a pair of terms, both expressed in µg/g: $D_i = (x_i - x_R)$ and its expanded uncertainty U_i ($k = 2$), with $U_i = 2[u_i^2 + (U_R/2)^2]^{1/2}$.

No pair-wise degrees of equivalence are calculated for this key comparison.

Degree of equivalence D_i and expanded uncertainty U_i ($k = 2$)

Lab i
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	D_i / (µg/g)	U_i / (µg/g)
BAM	0.12	1.4
IRMM	0.75	1.4
LGC	-0.81	2.2
NIST	-0.60	1.4

CCQM-K35   Mass fraction of Sulfur in diesel fuel: ~ 42 µg/g
Degrees of equivalence: D_i and expanded uncertainty U_i ($k = 2$)