NATIONAL PHYSICAL LABORATORY
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Certificate of Calibration

NPL CERTIFIED REFERENCE MATERIAL

Cylinder Number: D913490

CUSTOMER: **IMT Nord Europe**

ADDRESS: Département Sciences de l'Atmosphère et Génie de l'Environnement, Site de Douai: 941 rue Charles Bourseul, CS10838 – 59508 Douai Cedex

CALIBRATION DATE: 16 November 2023

CERTIFIED AMOUNT FRACTIONS:

Component	Amount fraction / (µmol/mol)	Component	Amount fraction / (µmol/mol)
Acetaldehyde	1.53 ± 0.08	1,2,4-trifluorobenzene	1.10 ± 0.06
Methanol	1.30 ± 0.13	Toluene	1.14 ± 0.06
Ethanol	1.21 ± 0.13	Hexamethylcyclotrisiloxane	0.97 ± 0.10
Isoprene	0.989 ± 0.049	*m*-xylene	1.12 ± 0.06
Acetone	1.12 ± 0.06	Octamethylcyclotetrasiloxane	1.21 ± 0.13
Dimethyl Sulfide	1.09 ± 0.06	1,2,4-trimethylbenzene	1.13 ± 0.06
Acetonitrile	0.99 ± 0.05	+3-carene	1.09 ± 0.06
Perfluorotributylamine	1.03 ± 0.11	Decamethylcyclopentasiloxane	1.12 ± 0.12
3-buten-2-one	1.03 ± 0.11	1,2,4-trichlorobenzene	1.04 ± 0.06
Butan-2-one	1.03 ± 0.06	Nitrogen	Balance
Benzene	1.11 ± 0.06	-	-

The reported expanded uncertainties are based on standard uncertainties multiplied by a coverage factor $k = 2$, providing a coverage probability of approximately 95 %.

METHODS: Preparation: gravimetry; Analysis: gas chromatography (FID)

TRACEABILITY: The values on this certificate are traceable to NPL Primary Standards

EXPIRY: Certificate valid for 1 year from the date of issue

PRESSURE: Fill pressure: 104 bar; Minimum utilisation pressure: 10 bar

STORAGE: No special precautions are required

HANDLING: Refer to ISO 16664

OUTLET: BS 341 No. 15 Valve

INTENDED USE: Calibration standard

Reference: 2023060072 **Date of issue:** 27 November 2023

Signed: (Authorised Signatory)

Name: Dr D R Worton (on behalf of NPLML)

Checked by: G Hristova