

Amount of substance, High purity chemicals, United Kingdom, LGC (Laboratory of the Government Chemist)



The expanded uncertainty ranges given in the following CMCs are expressed according to two conventions.

For 'Uncertainty convention 1', the expanded uncertainty range spans from the smallest numerical value of the uncertainty to the largest numerical value of the uncertainty found within the quantity range.

For 'Uncertainty convention 2', the expanded uncertainty range is expressed as the uncertainty of the smallest value of the quantity to the uncertainty of the largest value of the quantity.

Unless otherwise stated, the convention taken is 'Uncertainty convention 1'.

| NMI Service Identifier | Measurement Service Sub-Category | Matrix | Measurand | | Dissemination Range of Measurement Capability | | | Range of Expanded Uncertainties as Disseminated | | | | | | Range of Certified Values in Reference Materials | | | Range of Expanded Uncertainties for Certified Value | | | | | | Mechanism(s) for Measurement Service Delivery | Comments |
|------------------------|----------------------------------|---|---|---------------|---|------|------|---|-----|------|---|---------------------|---|--|------|------|---|-----|------|---|---------------------|---|---|--------------------------|
| | | | Analyte or Component | Quantity | From | To | Unit | From | To | Unit | k | level of confidence | Is the expanded uncertainty a relative one? | From | To | Unit | From | To | Unit | k | level of confidence | Is the expanded uncertainty a relative one? | | |
| Org-006 | Organic compounds | chlorinated pesticides | chlorinated pesticides | Mass fraction | 95 | 100 | % | 0.3 | 2 | % | 2 | 95% | Yes | | | | | | | | | | Calibration | |
| Org-007 | Organic compounds | p,p'-DDE | p,p'-DDE | Mass fraction | 99.6 | 99.6 | % | 0.4 | 0.4 | % | 2 | 95% | Yes | 99.6 | 99.6 | % | 0.4 | 0.4 | % | 2 | 95% | Yes | LGC1110 plus calibration | |
| Org-008 | Organic compounds | tecnazene | 1,2,4,5-tetrachloro-3-nitrobenzene | Mass fraction | 99.8 | 99.8 | % | 0.5 | 0.5 | % | 2 | 95% | Yes | 99.8 | 99.8 | % | 0.5 | 0.5 | % | 2 | 95% | Yes | LGC1130 plus calibration | |
| Org-009 | Organic compounds | dimethoate | O,O-dimethyl S-[2(methylamino)-2-oxoethyl] phosphorodithioate | Mass fraction | 99.2 | 99.2 | % | 0.9 | 0.9 | % | 2 | 95% | Yes | 99.2 | 99.2 | % | 0.9 | 0.9 | % | 2 | 95% | Yes | LGC1204 plus calibration | |
| Org-010 | Organic compounds | malathion | malathion | Mass fraction | 99.4 | 99.4 | % | 0.6 | 0.6 | % | 2 | 95% | Yes | 99.4 | 99.4 | % | 0.6 | 0.6 | % | 2 | 95% | Yes | LGC1205 plus calibration | |
| Org-011 | Organic compounds | nicotine | nicotine | Mass fraction | 99.4 | 99.7 | % | 0.6 | 0.6 | % | 2 | 95% | Yes | 99.7 | 99.7 | % | 0.3 | 0.3 | % | 2 | 95% | No | Calibration and ERM-AC802 | Approved on 30 July 2009 |
| Org-012 | Organic compounds | PCB 77 | PCB 77 or 3,3',4,4'-tetrachlorobiphenyl | Mass fraction | 99.5 | 99.8 | % | 0.3 | 0.3 | % | 2 | 95% | Yes | 99.8 | 99.8 | % | 0.3 | 0.3 | % | 2 | 95% | No | Calibration and ERM-AC820 | Approved on 30 July 2009 |
| Org-013 | Organic compounds | PCB 126 | PCB 126 or 3,3',4,4',5-pentachlorobiphenyl | Mass fraction | 98.6 | 98.9 | % | 0.3 | 0.3 | % | 2 | 95% | Yes | 98.9 | 98.9 | % | 0.3 | 0.3 | % | 2 | 95% | No | Calibration and ERM-AC821 | Approved on 30 July 2009 |
| Org-014 | Organic compounds | PCB 169 | PCB 169 or 3,3',4,4',5,5'-hexachlorobiphenyl | Mass fraction | 98.1 | 99.4 | % | 1.3 | 1.3 | % | 2 | 95% | Yes | 99.4 | 99.4 | % | 1.3 | 1.3 | % | 2 | 95% | No | Calibration and ERM-AC822 | Approved on 30 July 2009 |
| Org-015 | Organic compounds | 2,6-di-tert-butyl-4-methylphenol or BHT | 2,6-di-tert-butyl-4-methylphenol or BHT | Mass fraction | 99.8 | 99.8 | % | 1.4 | 1.4 | % | 2 | 95% | Yes | 99.8 | 99.8 | % | 1.4 | 1.4 | % | 2 | 95% | Yes | LGC7300 plus calibration | |

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|------------------------|----------------------------------|----------------------------|---|---------------|---|------|------|---|------|------|------------|---------------------|---|--|------|------|---|-----|------|---|---------------------|---|---|------------------------------|
| | | | Analyte or Component | Quantity | From | To | Unit | From | To | Unit | k | level of confidence | Is the expanded uncertainty a relative one? | From | To | Unit | From | To | Unit | k | level of confidence | Is the expanded uncertainty a relative one? | | |
| Org-016 | Organic compounds | butylated hydroxyanisole | 3-tert-butyl-4-hydroxyanisole | Mass fraction | 98.6 | 99.2 | % | 0.6 | 0.6 | % | 2 | 95% | Yes | 99.2 | 99.2 | % | 0.6 | 0.6 | % | 2 | 95% | No | Calibration and ERM-AC301 | Approved on 30 July 2009 |
| Org-017 | Organic compounds | saccharin | 2,3-dihydro-1,2-benzisothiazol-3-one-1,1-dioxide or 1,2-benzisothiazolin-3-one, 1,1-dioxide | Mass fraction | 99.6 | 99.6 | % | 0.6 | 0.6 | % | 2 | 95% | Yes | 99.6 | 99.6 | % | 0.6 | 0.6 | % | 2 | 95% | Yes | LGC7302 plus calibration | |
| Org-018 | Organic compounds | potassium sorbate | potassium 2,4-hexadienoate | Mass fraction | 98.2 | 99.8 | % | 1.6 | 1.6 | % | 2 | 95% | Yes | 99.8 | 99.8 | % | 1.6 | 1.6 | % | 2 | 95% | No | Calibration, LGC7305 | Approved on 30 July 2009 |
| Org-019 | High purity chemicals | organophosphate pesticides | organophosphate pesticides | Mass fraction | 95 | 100 | % | 0.3 | 2 | % | 2 | 95% | Yes | | | | | | | | | | Calibration | |
| Org-020 | High purity chemicals | PCBs | PCBs | Mass fraction | 95 | 100 | % | 0.3 | 2 | % | 2 | 95% | Yes | | | | | | | | | | Calibration | |
| Org-023 | Organic compounds | aromatic hydrocarbons | aromatic hydrocarbons, compounds with less than 20 C atoms | Mass fraction | 97 | 100 | % | 0.2 | 1 | % | 2 | 95% | Yes | | | | | | | | | | Calibration | Approved on 01 March 2005 |
| Org-038 | Organic compounds | atrazine | atrazine | Mass fraction | 98.2 | 99.2 | % | 0.4 | 0.12 | % | 6.8 to 2.3 | 95 % | No | | | | | | | | | | Calibration | Approved on 23 November 2009 |
| Org-039 | Organic compounds | chlorpyrifos | chlorpyrifos | Mass fraction | 99.7 | 99.8 | % | 0.1 | 0.1 | % | 2.7 | 95 % | No | | | | | | | | | | Calibration | Approved on 23 November 2009 |

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| | | | Analyte or Component | Quantity | From | To | Unit | From | To | Unit | k | level of confidence | Is the expanded uncertainty a relative one? | From | To | Unit | From | To | Unit | k | level of confidence | Is the expanded uncertainty a relative one? | | |
| Org-040 | Organic compounds | theophylline | theophylline | Mass fraction | 98.38 | 99.95 | % | 0.23 | 0.27 | % | 2.4 to 11.9 | 95 % | No | 99.95 | 99.95 | % | 0.08 | 0.08 | % | 2.40 | 0.95 | No | Calibration and ERM AC803 | Approved on 23 November 2009 |
| Org-044 | Organic compounds | high purity digoxin | digoxin | Mass fraction | 97.5 | 99.7 | % | 0.3 | 0.5 | % | 2.1 | 95% | No | 98.0 | 98.0 | % | 0.5 | 0.5 | % | 2.1 | 95% | No | Calibration of high purity material from a known synthetic route/origin and ERM-AC200a | Approved on 06 December 2011 |
| Org-045 | Organic compounds | high purity N-ethyl-N-[2-(1-isobutoxyethoxy)ethyl]-4-(phenylazo)aniline ("solvent yellow 124") | N-ethyl-N-[2-(1-isobutoxyethoxy)ethyl]-4-(phenylazo)aniline ("solvent yellow 124") | Mass fraction | 93.5 | 99.88 | % | 1.2 | 0.26 | % | 2.15 | 95% | No | 95.0 | 95.0 | % | 1.2 | 1.2 | % | 2.15 | 95% | No | Calibration of high purity material from a known synthetic route/origin and ERM-AC316a | Uncertainty range convention 2 Approved on 06 December 2011 |
| Org-046 | Organic compounds | leucomalachite green | leucomalachite green | Mass fraction | 98.0 | 99.5 | % | 0.8 | 0.8 | % | 2.5 | 95% | No | 98.8 | 98.8 | % | 0.8 | 0.8 | % | 2.5 | 95% | No | Calibration and ERM-AC303a | Approved on 06 December 2011 |