

# Technical Datasheet

**Analysis Name:** Furan, Alkylfurans, and Styrene by Headspace GC-MS

**Method Number:** LI-00.370

**Scope of Application:** Baby foods in jar, beverages, infant cereals, infant formula and roasted coffee for furan and all alkylfurans. Coffee and dairy for styrene. Additional matrix types may be analyzed; however, if they do not meet the acceptance criteria established by the matrices that are validated then the matrix will be considered not compatible with this method or an increased quantitation limit may be reported. This method is a selectable component analysis- each component can be selected individually and has a unique cost associated with it.

**Description:** An in-house method for the quantitative determination of furan, five alkylfurans, and styrene by headspace gas chromatography mass spectrometry (GC-MS/HS). The procedure encompasses an extraction assisted with sodium chloride into the headspace over 20 minutes at 50°C. A fixed volume of the resulting headspace is injected. After GC separation the data are acquired on a single quadrupole mass spectrometer operated in selected ion monitoring mode with an electron ionization source. Quantitation is performed via external calibration and an internal standard (IS). The limit of quantitation (LOQ) for each analyte may vary based on matrix type.

**Sample Weight Required:** One original finished product container, *or* 50g if your raw material is in bulk, is required for all analytes selected. Sample must be stored in a sealed container. Portion received for analysis must be representative of entire sample.

**Analytical Platform:** GC-MS/HS

Baby Foods in Jar, Beverages, Fruit Purees (high water content)		
Analyte Reported	Unit of Measure	Range of Quantification
Furan	µg/kg	5.0 – 300
2-Methylfuran	µg/kg	5.0 – 300
3-Methylfuran	µg/kg	5.0 – 300
2-Ethylfuran	µg/kg	5.0 – 300
2,5-Dimethylfuran	µg/kg	5.0 – 300
Styrene (only dairy)	µg/kg	10 - 300



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Infant Cereals and Infant Formula (dry foods)		
Analyte Reported	Unit of Measure	Range of Quantification
Furan	µg/kg	5.0 – 150
2-Methylfuran	µg/kg	5.0 – 150
3-Methylfuran	µg/kg	5.0 – 150
2-Ethylfuran	µg/kg	5.0 – 150
2,5-Dimethylfuran	µg/kg	5.0 – 150
Styrene (only dairy)	µg/kg	10 - 150

Roasted Coffee		
Analyte Reported	Unit of Measure	Range of Quantification
Furan	µg/kg	200 – 16,000
2-Methylfuran	µg/kg	200 – 16,000
3-Methylfuran	µg/kg	200 – 16,000
2-Ethylfuran	µg/kg	200 – 16,000
2,5-Dimethylfuran	µg/kg	200 – 16,000
Styrene	µg/kg	10 - 150

\*Note: When you copy a previous submission and it includes LI-00.370 Furan and Alkylfurans by GC-MS, it will display as shown in the example below. This screen automatically includes Furan, 2-methylfuran, 3-methylfuran, 2-ethylfuran, and 2,5-dimethylfuran. However, it will **NOT** include Styrene. If you no longer need all the components previously requested, you will need to remove this test and then add the individual components desired. If you add the individual components on top of this screen, even if they are duplicated, you will receive results and be charged for all testing requested. **Feel free to reach out to the customer service team with any questions.**

**Furan and Alkyl Furan Screen** ×  
**(Styrene Not Included)**

Add Instructions

Limit or Level: N/A ▼

Value/Unit of Measure:

Quantity: 1