Reference Standards

Simplify Your Analysis of Furan and Alkylfurans

with Our New Multicomponent CRM Mix

- Single ampul contains eight furan and alkylfurans.
- Meets all compounds listed by AOAC SMPR 2019.004 and Commission Recommendation (EU) 2022/495.
- Certified Reference Material (CRM) manufactured and QC-tested in our ISO-accredited labs.

RESTEK Pure Chromatography www.restek.com

Simplify Your Analysis of Furan and Alkylfurans with Our New Multicomponent CRM Mix

Designed for food safety labs analyzing these emerging compounds of interest, Restek's new multicomponent mix meets all compounds listed by AOAC SMPR 2019.004 and Commission Recommendation (EU) 2022/495. By combining eight furan and alkylfuran compounds into one ampul, calibration complexity is reduced, enabling labs to minimize errors, save time, and decrease costs.

A high concentration of 100 µg/mL adds additional flexibility in creating working standards, and an optimized SPME Arrows and GC-MS method helps labs streamline method development.

- Single ampul contains eight furan and alkylfurans—meeting all compounds listed by AOAC SMPR 2019.004 and Commission Recommendation (EU) 2022/495.
- Certified Reference Material (CRM) manufactured and QC-tested in our ISO-accredited labs.
- Formulated for optimal stability and usability to ensure your calibration standards are accurate.

Furan/Alkylfurans Standard
(8 components)

Furan (110-00-9)
2-Methylfuran (534-22-5)
3-Methylfuran (930-27-8)
2,5-Dimethylfuran (625-86-5)
2-Ethylfuran (3208-16-0)
2-Pentylfuran (3777-69-3)
2-Butylfuran (4466-24-4)
2,3-Dimethylfuran (14920-89-9)

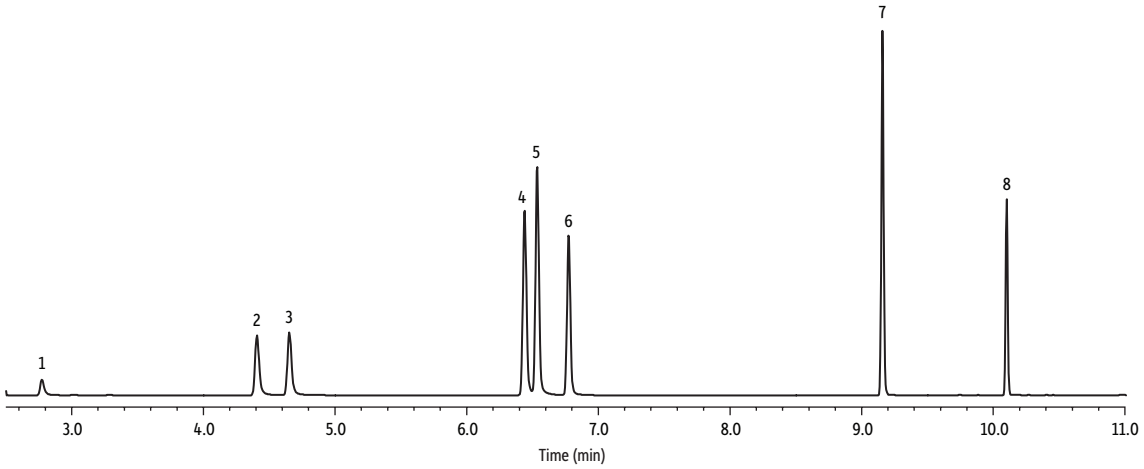
Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
100 µg/mL, P&T Methanol, 1 mL/ampul	Yes	6 months	36 months	Ambient	0 °C or colder	ea.	33334

Custom Reference Standards

Do you need specific compounds to meet your method requirements?

Visit **www.restek.com/standards** and start a request today!

Figure 1: Our Rxi-624Sil MS GC columns provide baseline separation of critical isomers of 2,3-dimethylfuran, 2,5-dimethylfuran, and ethylfuran on a 30 m column.



Peaks	t_R (min)	Conc. (ng)	SIM ion 1	SIM ion 2	SIM ion 3
1. Furan	2.77	200	39	68	-
2. 2-Methylfuran	4.41	200	39	53	82
3. 3-Methylfuran	4.65	200	39	53	82
4. 2-Ethylfuran	6.44	200	53	81	96
5. 2,5-Dimethylfuran	6.54	200	53	81	95
6. 2,3-Dimethylfuran	6.77	200	67	81	95
7. 2-Butylfuran	9.16	200	53	81	124
8. 2-Pentylfuran	10.10	200	53	81	138

Column Rxi-624Sil MS, 30 m, 0.25 mm ID, 1.4 µm (cat.# 13868)
Standard/Sample Furan/alkylfurans standard (cat.# 33334)
Diluent: 30% NaCl in water
Conc.: 20 µg/mL
Injection Split (split ratio 10:1)
Liner: Topaz 1.8 mm ID straight/SPME inlet liner (cat.# 23279)
Inj. Temp.: 280 °C
Split Vent Flow Rate: 14 mL/min
Oven
Oven Temp.: 35 °C (hold 1 min) to 75 °C at 8 °C/min to 280 °C at 25 °C/min (hold 1 min)
Carrier Gas He, constant flow
Flow Rate: 1.4 mL/min
Detector Shimadzu Nexis GC-2030, GCMS-QP2020 NX
Transfer Line Temp.: 280 °C
Analyzer Type: Quadrupole
Source Temp.: 300 °C
Tune Type: PFTBA
Ionization Mode: EI
Instrument Shimadzu Nexis GC-2030 & QP2020 NX
Sample Preparation A 10 mL sample was prepared for headspace solid phase microextraction (HS-SPME) as follows:

1. 3 g sodium chloride was weighed into a 20 mL amber headspace vial (cat. # 23086) with screw-top cap (cat. # 23090).
2. 10 mL of deionized water was added to the vial.
3. The sample was fortified at 20 µg/mL with the alkylfurans standard.
4. The vial was capped and vortexed at 3000 rpm for 10 seconds, inverted, then vortexed again for 10 seconds at 3000 rpm.

Notes

CTC PAL Parameters
HS-SPME Arrow
Tool: SPME Arrow
SPME Arrow: Restek PAL Smart SPME Arrow, Carbon-WR/PDMS, 1.1 mm, 120 µm (cat.# 28903-1)
Agitator Speed: 250 rpm
Agitator Temp: 50 °C
Incubation Time: 10 min
Heatex Stirrer Speed: 250 rpm
Heatex Stirrer Temp.: 50 °C
Vial Penetration Depth: 43 mm
Extraction Time: 10 min
Injector Penetration Depth: 54 mm
Desorption Time: 1 min
Pre-Conditioning: True
Post-Conditioning: False
Conditioning Time: 1 min
Conditioning Temp.: 280 °C

Rxi-624Sil MS GC Columns

ID	Length	df	Units	Cat.#
0.25 mm	30 m	1.4 µm	ea.	13868

Topaz Straight/SPME Inlet Liner

for Shimadzu 17A, 2010, 2014, and 2030 GCs

Catalog No.	ID	Length	Units
23279	1.8 mm	95 mm	5-pk.

PAL Smart SPME Arrow 1.10mm: Carbon-WR/PDMS

Cat.#	Diameter	Material	Phase Length	Color	Units
28903-1	1.1 mm	120 µm Carbon-WR/PDMS (Carbon Wide Range/Polydimethylsiloxane)	20 mm	Light Blue	ea.

Headspace Screw-Thread Vials

Cat.#	Size	Type	Volume	Color	Units
23086	22 x 75 mm	18-425 Screw-Thread	20 mL	Amber	100-pk.

Magnetic Screw-Thread Headspace Caps

Cat.#	Cap Size	Type	Thickness	Septa Material	Units
23091	18-425	Screw Thread	1.5 mm	Blue PTFE/Silicone	1000-pk.

Additional product configurations available at **www.restek.com**

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Questions? Contact us or your local Restek representative (www.restek.com/contact-us).

www.restek.com

Lit. Cat.# FSSS4230-UNV