

Extractables & Leachables Screening Standard

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I. INTRODUCTION

The Extractables & Leachables Screening Standard is intended for use as a benchmarking or system suitability test standard. This standard contains a representative sample of common industry extractable and leachable compounds used to reliably evaluate system preparedness for non-targeted screening and unknown compound analysis.

This 18-component mixture was selected with the following key performance factors in mind:

- Compounds are representative of common industry polymer additives and preservatives
- Contains components which ionize in both (+) and (-) MS modes
- Contains compounds which cover a wide screening mass range.

Table 1. Extractable & Leachable Screening Standard Components List

Compound	Elemental Compound	Mass	CAS #	Conc. in MeOH	ESI (+)	ESI (-)	Log P
Methylparaben	C ₈ H ₈ O ₃	152.0473	99-76-3	100 ppb	—	✓	1.88
Propylparaben	C ₁₀ H ₁₂ O ₃	180.0786	94-13-3	100 ppb	—	✓	2.9
Diethyl phthalate	C ₁₂ H ₁₄ O ₄	222.0892	84-66-2	100 ppb	✓	—	2.71
Tinuvin P	C ₁₃ H ₁₁ N ₃ O	225.0902	2440-22-4	1 ppm	✓	—	4.31
Dibutyl sebacate	C ₁₈ H ₃₄ O ₄	314.2457	109-43-3	100 ppb	✓	—	5.96
Diphenyl phthalate	C ₂₀ H ₁₄ O ₄	318.0892	84-62-8	100 ppb	✓	—	3.57
2-hydroxy-4-octyloxy benzophenone	C ₂₁ H ₂₆ O ₃	326.1882	1843-05-6	100 ppb	✓	—	7.56
Tinuvin 327	C ₂₀ H ₂₄ ClN ₃ O	357.1608	3864-99-1	1 ppm	✓	✓	7.54
Tris(p-cresyl) phosphate (TCP)	C ₂₁ H ₂₁ O ₄ P	368.1177	78-32-0	100 ppb	✓	—	5.11
Uvitex OB	C ₂₆ H ₂₆ N ₂ O ₂ S	430.1715	7128-64-5	100 ppb	✓	—	7.22
Cyasorb 2908	C ₃₁ H ₅₄ O ₃	474.4073	67845-93-6	100 ppb	✓	✓	12.48
Irganox 1076	C ₃₅ H ₆₂ O ₃	530.4699	2082-79-3	1 ppm	✓	✓	13.53
Irganox 245	C ₃₄ H ₅₀ O ₈	586.3506	36443-68-2	100 ppb	✓	✓	7.61
Irganox 1098	C ₄₀ H ₆₄ N ₂ O ₄	636.4866	23128-74-7	100 ppb	✓	✓	9.82
Tinuvin 360	C ₄₁ H ₅₀ N ₆ O ₂	658.3995	103597-45-1	1 ppm	✓	✓	14.48
Ethanox 330 (Irganox 1330)	C ₅₄ H ₇₈ O ₃	774.5951	1709-70-2	1 ppm	✓	✓	16.33
Uvinul 3030	C ₆₉ H ₄₈ N ₄ O ₈	1060.3472	178671-58-4	100 ppb	✓	—	12.97
Irganox 1010	C ₇₃ H ₁₀₈ O ₁₂	1176.7841	6683-19-8	1 ppm	✓	✓	18.83

II. STORAGE

This material should be stored in the original packaging at 4 °C upon receipt.

III. RECOMMENDED LC-MS EXPERIMENTAL CONDITIONS AND REPRESENTATIVE DATA

Column: CORTECS™ UPLC™ C₁₈, 90 Å, 1.6 µm, 2.1 x 100 mm (p/n: [186007095](#))

Temp.: 50 °C

Mobile phase A: 0.1% formic acid, 1 mM ammonium acetate in water

Mobile phase B: Methanol

Flow rate: 0.3 mL/min

Gradient profile:

Time (min)	%B
0.0	2
0.5	2
6.0	99
13.0	99
13.1	2
15.0	2

MS conditions:

ESI (+)	ESI (-)
Capillary: 1.0 kV	Capillary: 0.8 kV
Cone: 40 V	Cone: 40 V
Source temp.: 120 °C	Source temp.: 120 °C
Desolvation temp.: 600 °C	Desolvation temp.: 600 °C
Desolvation gas: 800 L/hr	Desolvation gas: 800 L/hr

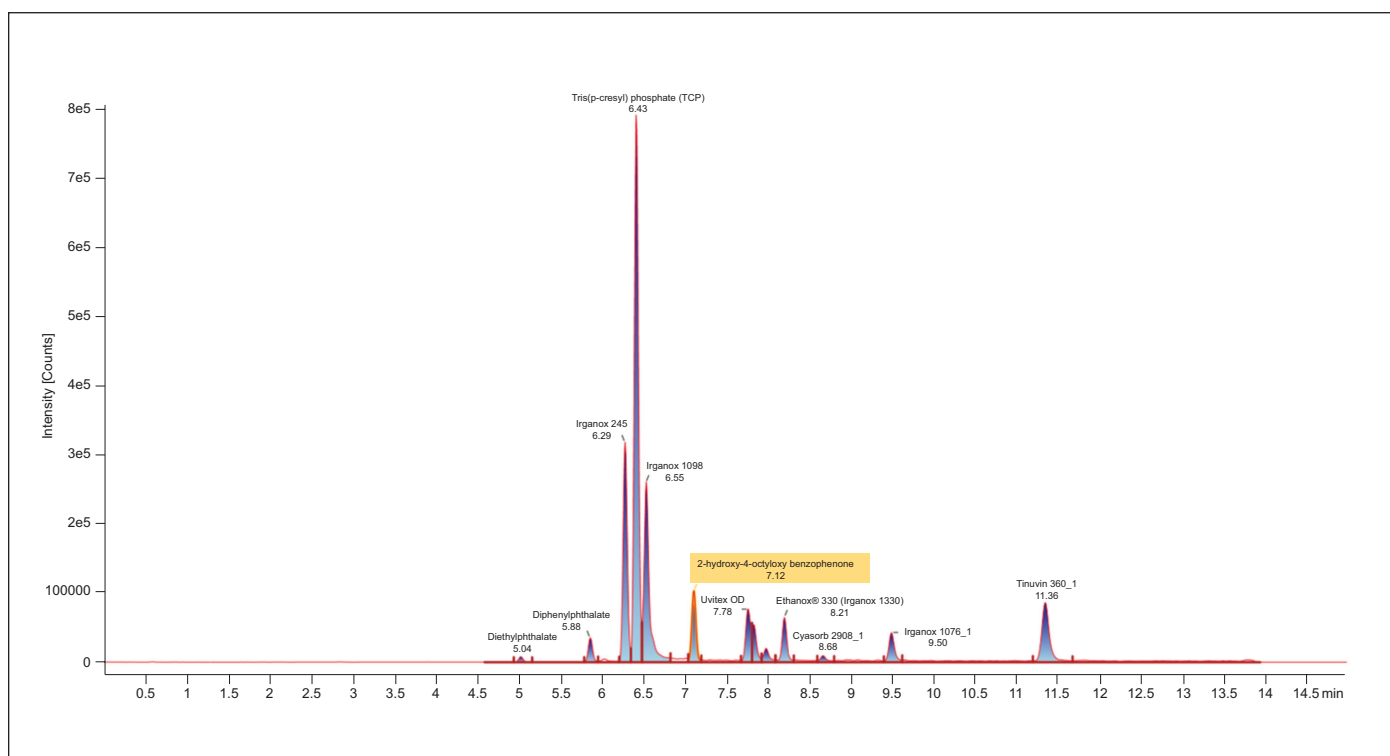


Figure 1. Extractables and leachables SST compounds at a column temperature of 50 °C (positive).

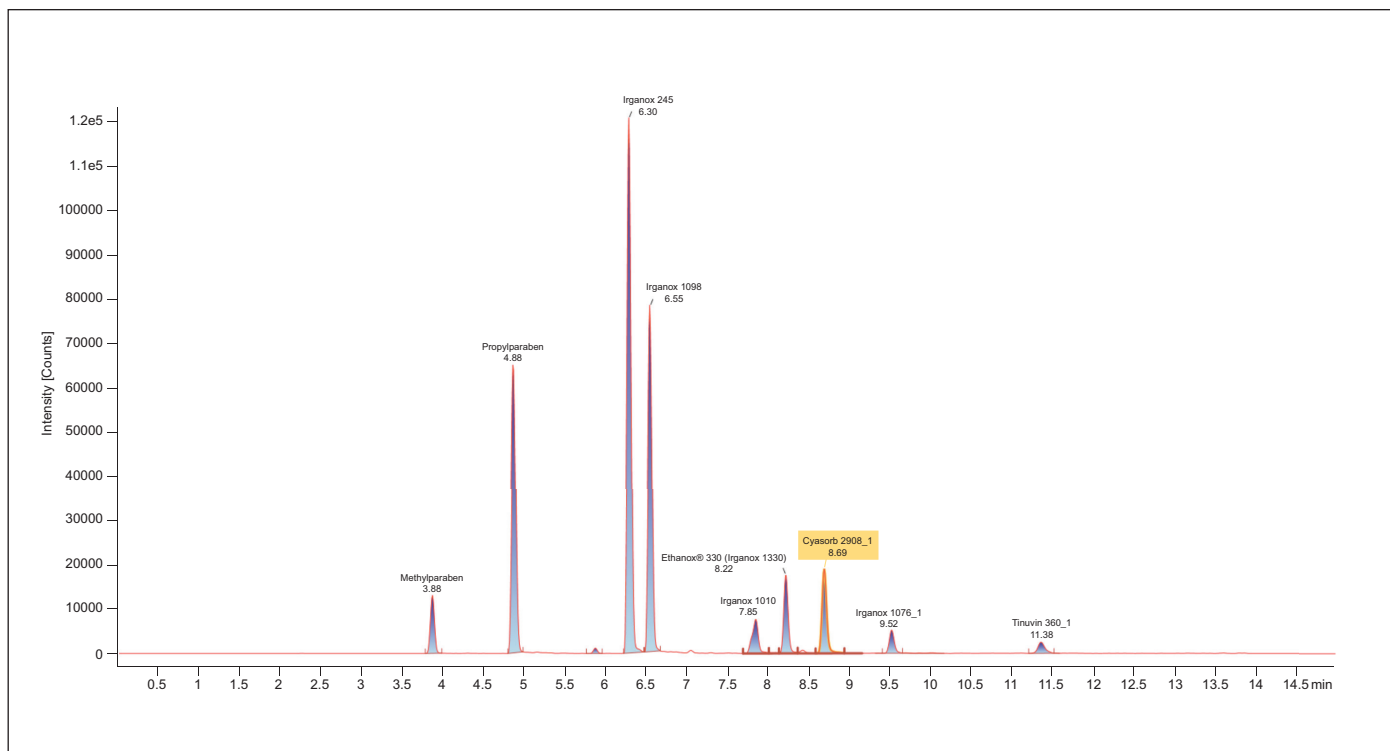


Figure 2. Extractables and leachables SST compounds at a column temperature of 50 °C (negative).

IV. ORDERING INFORMATION

Description	Part Number
Extractables & Leachables Screening Standard	186008063

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