

Certificate of Analysis

COA4V1.4

Sample Description: Herbicide Components
 Client: Contact Organics
 Sample Mass: 1 Qt
 Sampling date/time: NA

Report Date: May 2, 2022
 Sample No: S9533, S9534

Samples:				Results:		
Sample ID#	Sample Description/ UPC Code	Lot # and Expiration Date	Mass	Glyphosate (ng/g)	AMPA (ng/g)	Glyphosate Level
S9533	Contact Organic Boost	COT2020L03001	1 Qt.	Not Detected	Not Detected	Not Detected
S9534	Contact Organic Weed Terminator 20	COT2020L09002	1 Qt.	Not Detected	Not Detected	Not Detected

ISO 17025-Accredited HRI Method TM #8 Glyphosate and AMPA Detection by Mass Spectrometry

Glyphosate LOQ = 0.05 ppb, LOD = 0.02 ppb
 AMPA LOQ = 0.05 ppb, LOD = 0.013 ppb

Terms: "Trace" is between LOD and LOQ
 "Not Detected" is less than LOD

Sample preparation employed a modification of the method described in Chamkasem, Narong, Cynthia Morris, and Tiffany Harmon. 2016. "Direct Determination of Glyphosate, Glufosinate, and AMPA in Milk by Liquid Chromatography/tandem Mass Spectrometry." *Journal of Regulatory Science* 3 (2): 20–26.

LC-MS/MS analysis employed a modification of the method described in Jensen, Pamela K., Chad E. Wujcik, Michelle K. McGuire, and Mark A. McGuire. 2016. "Validation of Reliable and Selective Methods for Direct Determination of Glyphosate and Aminomethylphosphonic Acid in Milk and Urine Using LC-MS/MS." *Journal of Environmental Science and Health, Part B* 51 (4): 254–59. doi:10.1080/03601234.2015.1120619.

Limit of Quantitation (LOQ) and Limit of Detection (LOD) are sub-part per billion for this method and are determined for each sample. All values are based on equipment and reference materials that are traceable to ISO 17025 compliant calibrations. Measurement uncertainties are calculated and are available upon request. Results apply to the sample as received and relate only to the sample which is tested on an "as is" basis.

Total Effective Glyphosate Level calculated according to Food and Agriculture Organization (FAO) method where total glyphosate residue is the sum of the weight of glyphosate + 1.5 × the weight of its metabolite AMPA.

Released on Behalf of HRI Laboratories by



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