



**RE: Elemental Impurities - Propionic Acid, NF (P1464)**

To Whom It May Concern:

Thank you for your interest in Spectrum high quality chemicals.

The above material complies with the USP<232>, <233> Elemental Impurities and the ICH Q3D Elemental Impurities Guideline. The following elemental impurities are likely to be present:

Elemental Impurity		Class	Expected Concentration
Cadmium	Cd	1	
Lead	Pb	1	<0.5 ppm
Arsenic	As	1	
Mercury	Hg	1	
Cobalt	Co	2A	
Vanadium	V	2A	
Nickel	Ni	2A	
Thallium	Tl	2B	
Gold	Au	2B	
Palladium	Pd	2B	
Iridium	Ir	2B	
Osmium	Os	2B	
Rhodium	Rh	2B	
Ruthenium	Ru	2B	
Selenium	Se	2B	
Silver	Ag	2B	
Platinum	Pt	2B	
Lithium	Li	3	
Antimony	Sb	3	
Barium	Ba	3	
Molybdenum	Mo	3	
Copper	Cu	3	
Tin	Sn	3	
Chromium	Cr	3	

Elements indicated as "Not tested" are not intentionally added to the manufacturing process.

\* Lead is present below the limit of 10 ppm under the specification Lead as required by the USP monograph.

CORPORATE HEADQUARTERS

769 Jersey Avenue  
New Brunswick, NJ 08901  
PHONE 732.214.1300  
FAX 732.246.7132

WEST COAST FACILITY

14422 South San Pedro Street  
Gardena, California 90248  
PHONE 310.516.8000  
FAX 310.516.9843



Other elemental impurities considered by USP <232>, <233> and ICH Q3D which are not addressed in the above mentioned table are not likely to be present. These substances are not used in the production process, are not intentionally added or known to be present in the above mentioned material.

This information is subject to change and is intended for risk assessment only. It is responsibility of the end user to evaluate suitability of any chemical for the intended use as well as to assess compound-specific limits of daily intake of metal impurities. For lot-specific information, please refer to the respective Certificate of Analysis.

If you have any further questions, please contact us by telephone at 1(800)772-8786 Option 2, or by email at [TechServices@spectrumchemical.com](mailto:TechServices@spectrumchemical.com).

Sincerely,

Technical Services  
Spectrum Chemical Mfg. Corp.

This document has been produced electronically and is valid without a signature.

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