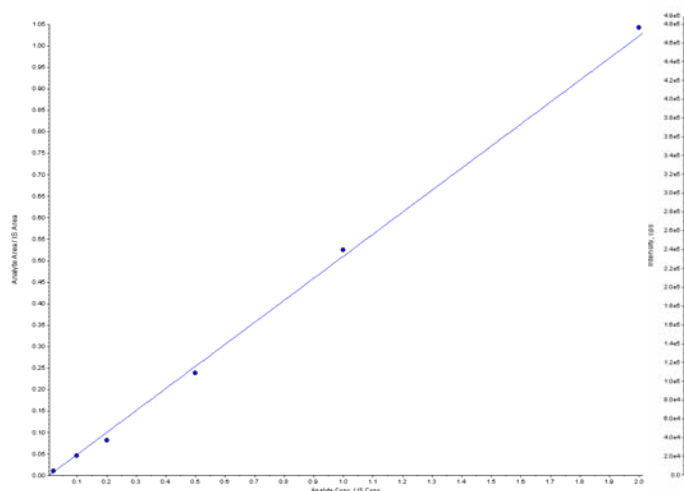
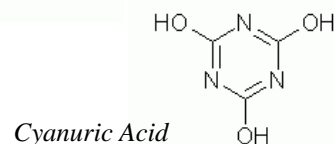
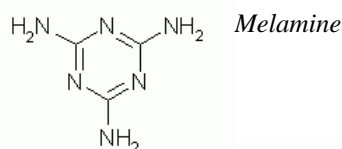


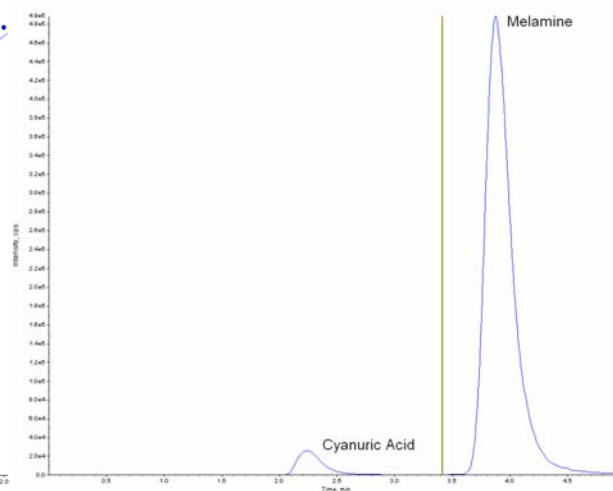


Determination of Melamine and Cyanuric Acid in Water

Melamine and cyanuric acid are nitrogen rich compounds which have been used as adulterants in a means to artificially inflate the protein content in imported food products. When found individually, melamine and cyanuric acid are not toxic; however, when combined in the bloodstream, they accumulate in the kidneys and form very large insoluble crystals (melamine cyanurate), which in turn can lead to renal failure and ultimately, death. This toxicity has prompted the U.S. FDA to set a standard for human consumption at 0.063 mg per kg of body mass per day⁽¹⁾. In an effort to determine the extent of this contamination, Weck Labs has developed a highly sensitive method for the quantification of melamine and cyanuric acid in aqueous matrices through the use of direct injection LC-MS/MS, achieving reporting limits of 1 µg/L.



Melamine, 1-100 ppb, $r^2=0.998$



Cyanuric Acid and Melamine, 1 ppb

Analyte	MDL ⁽²⁾ (µg/L)	RL ⁽³⁾ (µg/L)	Accuracy		Precision	
			Mean (%)	Acceptance ⁽⁴⁾ (%)	RSD (%)	Acceptance ⁽⁴⁾ (%)
Melamine	0.13	1	103	70-130	1.13	<30
Cyanuric Acid	0.22	1	98.1	70-130	3.43	<30

- Notes:
- (1) <http://www.cfsan.fda.gov/~dms/melamra3.html>
 - (2) Calculated Method Detection Limit using the procedure described in 40CFR Appendix B
 - (3) Reporting Limit
 - (4) Temporary limits until lab generated acceptance limits based on historical values are established