

Gas and Liquid Mixtures Typical Specifications

Typical Specifications	Dual-Analyzed Standards		Dual-Certified Standards	Single-Certified Standards			Custom Standards	
	EPA Protocol		GRAVSTAT™	ACUBLEND™	Certified*		Custom Class™	
	RATA Class™	Compliance Class™	Reference Class™	Master Class™	Master Class™	Working Class™		
Typical Applications	Calibration Standards to Meet Government Regulations		Master Calibration and Process Control	Calibration with Zero Blend Tolerance	Calibration and Process Control		Special Requirements	
Concentration Range							Select Blend Tolerance, Analytical and Process Accuracy by Component to Meet Your Specific Application Needs	
1 – 49 ppm	Blend Tolerance ±%	5	5	5	0	10		10
	Analytical Accuracy ±%	1	2	1	2	2		5
	Process Accuracy ±%	–	–	1	–	2		5
50 – 99 ppm	Blend Tolerance ±%	5	5	5	0	5		10
	Analytical Accuracy ±%	1	2	1	2	2		5
	Process Accuracy ±%	–	–	1	–	2		5
100 – 9999 ppm	Blend Tolerance ±%	5	5	2	0	5		10
	Analytical Accuracy ±%	1	2	1	1	2		5
	Process Accuracy ±%	–	–	1	–	2		5
1 – 1.9%	Blend Tolerance ±%	5	5	2	0	5	10	
	Analytical Accuracy ±%	1	2	1	1	2	5	
	Process Accuracy ±%	–	–	1	–	2	5	
2 – 15.9%	Blend Tolerance ±%	5	5	1	0	5	10	
	Analytical Accuracy ±%	1	2	1	1	2	5	
	Process Accuracy ±%	–	–	1	–	2	5	
16 – 49%	Blend Tolerance ±%	5	5	1	0	2	5	
	Analytical Accuracy ±%	1	2	1	1	1	2	
	Process Accuracy ±%	–	–	1	–	1	2	
Reproducibility ±% for Concentration Range of 100 ppm – 1%		2	3	2	2	3	7	
Analytical Traceability	NIST, VSL or Other Recognized Reference Standard		NIST, VSL or Other Recognized Reference Standard; or Air Liquide Reference Standard	Air Liquide or Other Reference Standards	Air Liquide or Other Reference Standards		Specify Traceability Source and Component Verification Level	
Process Traceability	Not Applicable		NIST or VSL Weights	Not Applicable	Weight, Pressure or Standards			
Component Verification	Laboratory Analysis of All Minor Components		Laboratory Analysis of All Minor Components	Analysis of All Minor Components	Confirmation of Minor Components			
Critical Impurities Analysis	Not Applicable		Available	Not Applicable	Not Applicable		Available	
Minor Components Available (Balance)	Inert Gas Phase Other Gas Phase Liquid Phase		Inert and/or Reactive Inert and/or Reactive Inert and/or Reactive	Inert and/or Reactive Not Applicable Not Applicable	Inert and/or Reactive Inert and/or Reactive Inert and/or Reactive		Inert and/or Reactive Inert and/or Reactive Inert and/or Reactive	
Standard Industry Methods	EPA G1 or State Protocols Used	EPA G1 or EPA G2 Protocols Used	Not Applicable	Not Applicable	ISO Methods Available		ASTM, EPA, GPA, AQMD, ISO or Other Industry Methods Available	
Reference Standard Accuracy	Directly traceable to SRMs, NTRMs or PRMs Used	NTRMs or EPA GMISs Used	Meets or Exceeds Analytical Accuracy Specifications	Achieves Analytical Accuracy Specifications	Achieves Analytical Accuracy Specifications		Customer Specified Accuracy	
Certificate of Accuracy	Protocol Concentration, Traceability and EPA Expiration Date Reported		Analyzed Concentration, Traceability and Shelf Life Reported; Requested and Blended Concentrations Shown	Analyzed Concentration, Traceability and Shelf Life Reported; Requested Concentrations Available	Certified* Concentration, Traceability and Shelf Life Reported; Requested Concentration Available		Custom Design Available	
Physical Property Notifications	Mixture Property Warnings Available		Actual Mixture Properties Available (i.e. Dew Point, Temperature and Vapor Pressure Restriction)	Actual Mixture Properties Available (i.e. Dew Point, Temperature and Vapor Pressure Restriction)	Mixture Property Warnings Provided		Actual Mixture Properties Available	
Raw Material Quality Control	Verified for Specification Compliance		Complete Purity Analysis	Verified for Specification Compliance	Verified for Specification Compliance		Complete Purity Analysis	
Product Shelf Life	Meets Regulatory Specifications		ACULIFE™ and Other Proprietary Processes Guarantee Stability and Shelf Life	ACULIFE™ and Other Proprietary Processes Guarantee Stability and Shelf Life	ACULIFE™ and Other Proprietary Processes Guarantee Stability and Shelf Life		Component Dependent	

* Special circumstances apply to certain low level reactive components (i.e. nitric oxide – please consult your Air Liquide representative).