



1775 Moriah Woods Blvd., Ste. 12 • Memphis, TN 38117 • (901) 398-4001

Cornerstone Report#: 304-24-005
 Attn: Jesse Castano, Airgas Products-Hanford, CA 93230.
 Cornerstone Reference #(s): 184274.

Date Sampled: 10/25/2024
 Date Received: 10/30/2024
 Date of Report: 11/04/2024

Quality Conformance Results

9781-102524-19%

ASP Premium Grade Parameters

Analysis	Results	Units	Reference Method	Specification Limit
Assay as NH ₃	19.14	%, w/w	ACS Titration	19.00-20.00
Appearance	Clear Free of Suspension	-	ACS Part 4, pg. 158	Clear
Residue after Ignition	<0.002	%, w/w	ACS Part 2, pg. 26	<0.002
Substance Reducing MnO ₄	PASS	-	ACS Part 4, pg. 159	PASS

Anions


Chlorides	<0.5	ppm, w/w	ACS Part 2, pg. 35	<0.5
Carbon Dioxide	<0.001	%, w/w	ACS Part 4, pg. 158	<0.001
Sulfates	<0.15	ppm, w/w	Calculation	<1.0
Phosphates	<1.0	ppm, w/w	Calculation	<1.0

Cations

Heavy Metals as Lead	<0.5	ppm, w/w	ICP/OES w/ACS prep	<0.5
Iron	<0.2	ppm, w/w	ICP/OES w/ACS prep	<0.2

Additional Airgas Parameters

Nitrates	<0.010	ppm, w/w	ACS Part 2, pg. 38	<1.0
Calcium	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Magnesium	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Sodium	0.310	ppm, w/w	ICP/OES w/ACS prep	<1.0
Potassium	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Copper	<0.010	ppm, w/w	ICP/OES w/ACS prep	<0.1
Aluminum	0.480	ppm, w/w	ICP/OES w/ACS prep	<1.0
Zinc	0.120	ppm, w/w	ICP/OES w/ACS prep	<0.1
Arsenic	<0.010	ppm, w/w	ICP/OES w/ACS prep	<0.5
Siloxanes	<0.010	ppm, w/w	ICP/OES w/ACS prep	<0.5
Chromium	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Sulfur	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Loss on Drying (NVR)	0.9	ppm, w/w	ACS Part 2, pg. 26	<10
APHA Color	1	Pt/Co	ASTM D1209	<10
Turbidity	0.9	NTU	LeMotte	<10


 Samuel J. LaBonia
 President



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Date Sampled: 10/25/2024
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 Date of Report: 11/04/2024

Quality Conformance Results

9781-102524-24%

ASP Premium Grade Parameters

Analysis	Results	Units	Reference Method	Specification Limit
Assay as NH ₃	24.22	%, w/w	ACS Titration	24.00-25.00
Appearance	Clear Free of Suspension	-	ACS Part 4, pg. 158	Clear
Residue after Ignition	<0.002	%, w/w	ACS Part 2, pg. 26	<0.002
Substance Reducing MnO ₄	PASS	-	ACS Part 4, pg. 159	PASS

Anions

Chlorides	<0.5	ppm, w/w	ACS Part 2, pg. 35	<0.5
Carbon Dioxide	<0.001	%, w/w	ACS Part 4, pg. 158	<0.001
Sulfates	<0.15	ppm, w/w	Calculation	<1.0
Phosphates	<1.0	ppm, w/w	Calculation	<1.0

Cations

Heavy Metals as Lead	<0.5	ppm, w/w	ICP/OES w/ACS prep	<0.5
Iron	<0.2	ppm, w/w	ICP/OES w/ACS prep	<0.2

Additional Airgas Parameters

Nitrates	<0.010	ppm, w/w	ACS Part 2, pg. 38	<1.0
Calcium	0.100	ppm, w/w	ICP/OES w/ACS prep	<1.0
Magnesium	0.350	ppm, w/w	ICP/OES w/ACS prep	<1.0
Sodium	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Potassium	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Copper	<0.010	ppm, w/w	ICP/OES w/ACS prep	<0.1
Aluminum	0.410	ppm, w/w	ICP/OES w/ACS prep	<1.0
Zinc	0.340	ppm, w/w	ICP/OES w/ACS prep	<0.1
Arsenic	<0.010	ppm, w/w	ICP/OES w/ACS prep	<0.5
Siloxanes	<0.010	ppm, w/w	ICP/OES w/ACS prep	<0.5
Chromium	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Sulfur	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Loss on Drying (NVR)	1.2	ppm, w/w	ACS Part 2, pg. 26	<10
APHA Color	1	Pt/Co	ASTM D1209	<10
Turbidity	1.2	NTU	LeMotte	<10

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 Date of Report: 11/04/2024

Quality Conformance Results

9781-102524-29%

ASP Premium Grade Parameters

Analysis	Results	Units	Reference Method	Specification Limit
Assay as NH ₃	29.32	%, w/w	ACS Titration	29.00-30.00
Appearance	Clear Free of Suspension	-	ACS Part 4, pg. 158	Clear
Residue after Ignition	<0.002	%, w/w	ACS Part 2, pg. 26	<0.002
Substance Reducing MnO ₄	PASS	-	ACS Part 4, pg. 159	PASS

Anions

Chlorides	<0.5	ppm, w/w	ACS Part 2, pg. 35	<0.5
Carbon Dioxide	<0.001	%, w/w	ACS Part 4, pg. 158	<0.001
Sulfates	<0.15	ppm, w/w	Calculation	<1.0
Phosphates	<1.0	ppm, w/w	Calculation	<1.0

Cations

Heavy Metals as Lead	<0.5	ppm, w/w	ICP/OES w/ACS prep	<0.5
Iron	<0.2	ppm, w/w	ICP/OES w/ACS prep	<0.2

Additional Airgas Parameters

Nitrates	<0.010	ppm, w/w	ACS Part 2, pg. 38	<1.0
Calcium	0.860	ppm, w/w	ICP/OES w/ACS prep	<1.0
Magnesium	0.450	ppm, w/w	ICP/OES w/ACS prep	<1.0
Sodium	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Potassium	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Copper	<0.010	ppm, w/w	ICP/OES w/ACS prep	<0.1
Aluminum	0.320	ppm, w/w	ICP/OES w/ACS prep	<1.0
Zinc	<0.010	ppm, w/w	ICP/OES w/ACS prep	<0.1
Arsenic	<0.010	ppm, w/w	ICP/OES w/ACS prep	<0.5
Siloxanes	<0.010	ppm, w/w	ICP/OES w/ACS prep	<0.5
Chromium	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Sulfur	<0.010	ppm, w/w	ICP/OES w/ACS prep	<1.0
Loss on Drying (NVR)	1.7	ppm, w/w	ACS Part 2, pg. 26	<10
APHA Color	1	Pt/Co	ASTM D1209	<10
Turbidity	1.7	NTU	LeMotte	<10

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 President