



Airborne Labs International

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Carbon Dioxide (CO₂) Analysis Standard Feed Gas Characterization Program[©]

Company
Address

Phone:
Sample ID.: Gaseous CO₂:
Sample ID.: Received in 2L True Blue Tedlar Polybag 1.2 No-Haz Kits

ALI Track No.:
Received On:
Report Date:
Order No.:
Sample Date:
Process Stage: Feed

Test Description/Units:

CO₂ Identification (% v/v by USP): _____
 Comments: All Polybags tested & found to contain 99+% CO₂.

Carbon Monoxide (CO, ppm v/v, [DT]): _____

Ammonia (NH₃, ppm v/v, [DT]): _____

Oxides of Nitrogen (NO_x, ppm v/v, [DT]): _____
 Comments: Speciation performed if NO_x is above 2.5 ppm v/v

Nitric Oxide (NO, ppm v/v, [DT]): _____

Nitrogen Dioxide (NO₂, ppm v/v, [DT]): _____

Phosphine (PH₃, ppm v/v, [DT]): _____
 Comments:

Total Hydrocarbons (THC, ppm v/v as CH₄, [THA]): _____
 Comments:

Total Non-Methane Hydrocarbons (TNMHC, ppm v/v as CH₄, [GC]): _____

Methane (CH₄, ppm v/v, [GC]): _____

Acetaldehyde (AA, ppm v/v, [GC]): _____

Aromatic Hydrocarbon Content (ppb v/v as Benzene, [GC]): _____

Benzene (ppb v/v [GC]): _____

Toluene (ppb v/v, [GC]): _____

Ethyl Benzene (ppb v/v, [GC]): _____

m,p Xylenes (ppb v/v [GC]): _____

o Xylene (ppb v/v [GC]): _____
 Comments:

Total Sulfur Content* (TSC* ppm v/v as S, [GC]): _____
 Comments: *Obtained by summation of all speciated VSC target impurities less SO₂

Sulfur Dioxide (SO₂, ppm v/v, [GC]): _____

Hydrogen Cyanide (HCN, ppm v/v, [GC]): _____

Vinyl Chloride (VCl, ppm v/v, [GC]): _____

Result	LOQ	Spec
	5	report
	2	report
	0.5	report
	0.5	report
	0.5	report
	0.5	report
	0.25	report
	0.1	report
	0.1	report
	0.1	report
	0.05	report
	2	report
	2	report
	2	report
	2	report
	2	report
	2	report
	0.01	report
	0.05	report
	0.2	report
	0.1	report

Speciated Volatile Hydrocarbons (VHC, ppm v/v)

Ethane: _____

Ethylene: _____

Propane: _____

Propylene: _____

Isobutane: _____

n-Butane: _____

Butene: _____

Isopentane: _____

n-Pentane: _____

Pentene: _____

Hexanes+: _____

Result	LOQ	Spec.
	0.1	report
	0.1	report
	0.1	report
	0.1	report
	0.1	report
	0.1	report
	0.1	report
	0.1	report
	0.1	report
	0.1	report
	0.1	report

Comments: Pk ID based upon t_r match against target analyte std. CH₄ result on pg 1.

Speciated Volatile Sulfur Compounds (VSC, ppm v/v)

Hydrogen Sulfide (H ₂ S):	-----	0.01	report
Carbonyl Sulfide (COS):	-----	0.01	report
Methyl Mercaptan:	-----	0.01	report
Ethyl Mercaptan:	-----	0.01	report
Dimethyl Sulfide:	-----	0.01	report
Carbon Disulfide:	-----	0.01	report
t-Butyl Mercaptan:	-----	0.01	report
Isopropyl Mercaptan:	-----	0.01	report
n-Propyl Mercaptan:	-----	0.01	report
Methyl Ethyl Sulfide:	-----	0.01	report
2-Butyl Mercaptan:	-----	0.01	report
i-Butyl Mercaptan:	-----	0.01	report
Diethyl Sulfide:	-----	0.01	report
n-Butyl Mercaptan:	-----	0.01	report
Dimethyl Disulfide:	-----	0.01	report
Unknown VSC:	-----	0.01	report

Comments: Peak ID based upon t_r match against target analyte standards. Note: SO₂ + TSC* results reported on pg. 1.

Speciated Volatile Oxygenates (VOX, ppm v/v)

Dimethyl Ether:	-----	0.1	report
Ethylene Oxide:	-----	0.1	report
Diethyl Ether:	-----	0.1	report
Propionaldehyde:	-----	0.1	report
Acetone:	-----	0.1	report
Methanol:	-----	0.1	report
t-Butanol:	-----	0.1	report
Ethyl Acetate:	-----	0.1	report
Isopropanol:	-----	0.1	report
Ethanol:	-----	0.1	report
Methyl Ethyl Ketone:	-----	0.1	report
2-Butanol:	-----	0.1	report
n-Propanol:	-----	0.1	report
Isobutanol:	-----	0.1	report
Isobutyl Acetate†:	-----	0.1	report
n-Butanol:	-----	0.1	report
n-Butyl Acetate†:	-----	0.1	report
Isoamyl Acetate:	-----	0.1	report
Isoamyl Alcohol:	-----	0.1	report
Unknown VOX:	-----	0.1	report

Comments: Peak ID based upon t_r match against target analyte standards. AA & Ethylene Glycol results reported on pg. 1.

LOQ = Limit of Quantitation (lowest amount of analyte quantitatively determined with suitable precision and accuracy) **MDL** = method detection limit (lowest amount of analyte detected). **trace** = unquantified amount observed between MDL and LOQ. **nd** = indicates the impurity was not detected (below MDL). -- = test not performed. **na** = not available. **LT** = less than the amount specified. **GT** = greater than the amount specified. % = percent. **ppm** = parts per million. **ppb** = parts per billion. **v/v** = volume analyte/volume sample. **w/w** = weight analyte/weight sample. **[result]** indicates the result was obtained by the method listed within brackets. **TSC*** = ISBT Total Sulfur Content excluding SO₂. **Unit Conversions:** 1ppm v/v = 1µL/L = 1000 ppb = 0.0001% v/v. **Date format:** MM/DD/YY.

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Report Summary:

Customer requested a standard CO₂ feed gas test program.

Reviewed by / Date:

Laboratory Manager mm/dd/yyyy

Laboratory Manager

Attachments: none

Addendum: Signatures, Instrument & Notebook data on-file



Accreditation # 68099

ISO Statement

Statements of conformity (pass or fail) resulting from the test/analysis performed on the above sample will not take into account the reported measurement uncertainty unless otherwise specified. This is a shared risk decision rule in which the customer also has responsibility for determining acceptance of the results. The methods Airborne Labs International uses are developed by Airborne Labs International and are based on the current revisions of international, national, or industry standards unless otherwise specified. Methods can be reviewed by the customer upon request. The acceptance criteria of the above item are based on ISBT specifications, NFPA, CGA, USP, or other industry specifications unless otherwise specified on the contract.

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