

72.2 Certified ZAM™ Air, Nitrogen

Engineered to meet 40 CFR Part 72.2 requirements for Acid Rain CEMS reporting



Scott™ EPA Zero Air Material Gases

40 CFR Part 75 calls for a CEMS to be exposed to “zero air material” during testing protocols in order to qualify the accuracy of the instrument. Part 75.21 states that calibration gases used must meet the definitions of 40 CFR Part 72.2 (see back for exact language). Some CEMS users mistakenly use a standard EPA protocol mixture as a zero gas, thinking this will satisfy the Acid Rain requirement. This practice however is risky as it can result in inaccurate CEMS calibration due to biased zero readings arising from contamination in the mix.

Achieving a balance between regulatory compliance certainty and cost-effectiveness, Air Liquide offers three types of zero air materials that are guaranteed to be Part 75 compliant: 72.2 Certified ZAM Air, 72.2 Certified ZAM Nitrogen and 72.2 Certified ZAM RATA Class™ Oxygen EPA Protocol. Each ZAM product is analyzed and certified to meet the requirements of CFR 72.2 paragraph (1) for trace SO₂, NO_x, THC, CO and CO₂. By using Air Liquide certified zero products, the risk of faulty calibration due to biased zero readings is eliminated.

Benefits and Features

- Part 75 compliant Certificate of Analysis with each cylinder
- Analyzed and guaranteed low contaminants:
 - SO₂ < 0.1 ppm
 - NO_x < 0.1 ppm
 - THC < 0.1 ppm
 - CO < 1 ppm
 - CO₂ < 400 ppm
- Available in three economical cylinder sizes
- Individually certified cylinders available
- Air and nitrogen in stock for fast delivery



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72.2 Certified ZAM Air

Our Scott zero air material is specifically engineered to meet or exceed the regulatory requirements of condition (1) as shown to the right. Do not confuse this with products that may be marketed by Air Liquide or other manufacturers as “Acid Rain Zero” or “CEM Zero” grades. 72.2 Certified Zero Air has different impurity specifications.

72.2 Certified ZAM Nitrogen

Some CEMS users prefer to use nitrogen to zero their instruments. In this case however, the nitrogen still must meet the impurity requirements of “zero air material.” Do not confuse this with products that may be marketed by Air Liquide or other manufacturers as “Acid Rain Zero” or “CEM Zero” grades. 72.2 Certified ZAM Nitrogen has different impurity specifications and is engineered to meet or exceed the regulatory requirements of paragraph (1) as shown to the right.

Note: Air Liquide also offers an Oxygen RATA Class™ EPA protocol mixture that satisfies the requirements of 72.2 paragraph (4) as shown to the right. The oxygen is analyzed and certified to EPA protocol requirements. Since the impurities of 72.2 Certified ZAM Air are analyzed and certified in the cylinder, this cylinder can be used to calibrate an O₂ analyzer and to zero CO₂, CO, NO_x, THC and SO₂ analyzers.

40 CFR Part 72.2 Language

- (1) A calibration gas certified by the gas vendor not to contain concentrations of SO₂, NO_x, or total hydrocarbons above 0.1 parts per million (ppm), a concentration of CO above 1 ppm, or a concentration of CO₂ above 400 ppm;
- (2) Ambient air conditioned and purified by a CEMS for which the CEMS manufacturer or vendor certifies that the particular CEMS model produces conditioned gas that does not contain concentrations of SO₂, NO_x, or total hydrocarbons above 0.1 ppm, a concentration of CO above 1 ppm, or a concentration of CO₂ above 400 ppm;
- (3) For dilution-type CEMS, conditioned and purified ambient air provided by a conditioning system concurrently supplying dilution air to the CEMS; or
- (4) A multi-component mixture certified by the supplier of the mixture that the concentration of the component being zeroed is less than or equal to the applicable concentration specified in paragraph (1) of this definition, and that the mixture's other components do not interfere with the CEM readings.

72.2 Certified ZAM Air	Cylinder Contents	Analysis Method
369-30AL	144 CF	Batch
369-16AL	78 CF	Batch
369-7AL	34 CF	Batch
369A-30AL	144 CF	Individually certified
369A-16AL	78 CF	Individually certified
369A-7AL	34 CF	Individually certified
72.2 Certified ZAM Nitrogen	Cylinder Contents	Analysis Method
7502-30AL	140 CF	Batch
7502-16AL	77 CF	Batch
7502-7AL	34 CF	Batch
7502A-30AL	140 CF	Individually certified
7502A-16AL	77 CF	Individually certified
7502A-7AL	34 CF	Individually certified



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Founded in 1902, Air Liquide is the world leader in industrial and medical specialty gases and related services, providing innovative solutions for the manufacture of everyday products and for the protection of life.

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