Teco Diagnostics

Test:
Carbon Dioxide (CO_2) Reagent Set (C525-60)

Number of Tests:
60 tests

Format:
Powder

Method:
Colorimetric

Testing Procedure:
Manual

Storage Temperature:
2-8°C

Reconstituted Stability:
1 day at 15-30°C
7 days at 2-8°C

Wavelength:
340 nm

Linearity:
0-40 mmol/L

Expected Values:
23-34 mmol/L
It is strongly suggested that each laboratory establish its own range of expected values.

Reagent Deterioration :
Do not use the reagent if the absorbance of CO_2 reagent when measured against water in a 1-cm light path is less than 1.000 at 340 nm, or dry reagent exhibits caking due to possible moisture penetration or does not dissolve completely.

Limitations of Procedure:
The major interference in this assay is CO_2 from air or from the breath of the analyst. Certain drugs and other substances are also known to influence blood CO2 levels. Lipemic, icteric, or hemolyzed sample will influence the result. Sample blank must be prepared.

Intended Use
For quantitative determination of carbon dioxide content in human plasma or serum.

Principle
Phosphoenol pyruvate carboxylase (PEPC) catalyzes the reaction between phosphoenol pyruvate and carbon dioxide (bicarbonate) to form oxalacetate and phosphate ion. Oxalacetate is reduced to malate with simultaneous oxidation of an equimolar amount of reduced NADH to NAD; the reaction is catalyzed by malate dehydrogenase (MDH). This results in a decrease in absorbance at 340 nm that is directly proportional to CO_2 concentration in the sample.

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