Lead Determine as directed in the *APDC Extraction Method* under *Lead Limit Test,* Appendix IIIB.
Loss on Ignition Ignite a sample at about 800° for 30 min.

Packaging and Storage Store in tight containers.

Potassium Sorbate

2,4-Hexadienoic Acid, Potassium Salt

$$CH_3CH{=}CHCH{=}CHCOOK$$

$C_6H_7KO_2$ Formula wt 150.22

INS: 202 CAS: [590-00-1]

DESCRIPTION

Potassium Sorbate occurs as white to off white crystals, crystalline powder, or pellets. It decomposes at about 270°.

Function Antimicrobial agent; preservative.

REQUIREMENTS

Identification

A. A 1:10 aqueous solution responds to the flame test for *Potassium,* Appendix IIIA.

B. Add a few drops of bromine TS to 2 mL of a 1:10 solution. The color disappears.
Assay Not less than 98.0% and not more than 101.0% of $C_6H_7KO_2$, calculated on the dried basis.
Acidity (as sorbic acid) Passes test (about 1%).
Alkalinity (as K_2CO_3) Passes test (about 1%).
Lead Not more than 2 mg/kg.
Loss on Drying Not more than 1.0%.

TESTS

Assay Dissolve about 250 mg of sample, accurately weighed, in 40 mL of glacial acetic acid contained in a 250-mL glass-stoppered Erlenmeyer flask, warming if necessary to effect solution. Cool to room temperature, add 2 drops of crystal violet TS, and titrate with 0.1 *N* perchloric acid in glacial acetic acid to a blue-green endpoint that persists for at least 30 s.

> **Caution**: Handle perchloric acid in an appropriate fume hood.

Perform a blank determination (see *General Provisions*), and make any necessary correction. Each milliliter of 0.1 *N* perchloric acid is equivalent to 15.02 mg of $C_6H_7KO_2$.
Acidity (as sorbic acid) Dissolve 1.1 g of sample in 20 mL of water, and add 3 drops of phenolphthalein TS. If the solution is colorless, titrate with 0.1 *N* sodium hydroxide to a pink color that persists for 15 s. Not more than 1.1 mL is required.
Alkalinity (as K_2CO_3) Dissolve 1.1 g of sample in 20 mL of water, and add 3 drops of phenolphthalein TS. If the solution is pink, titrate with 0.1 *N* hydrochloric acid. Not more than 0.8 mL is required to discharge the pink color.
Lead Determine as directed in the *Flame Atomic Absorption Spectrophotometric Method* under *Lead Limit Test,* Appendix IIIB, using a 10-g sample.
Loss on Drying Determine as directed under *Loss on Drying,* Appendix IIC, drying a sample at 105° for 3 h.

Packaging and Storage Store in tight containers.

Potassium Sulfate

K_2SO_4 Formula wt 174.26

INS: 515 CAS: [7778-80-5]

DESCRIPTION

Potassium Sulfate occurs as colorless or white crystals or as a crystalline powder. One gram dissolves in about 8.5 mL of water. It is insoluble in alcohol. The pH of a 1:20 aqueous solution is about 5.5 to 8.5.

Function pH control.

REQUIREMENTS

Identification A 1:10 aqueous solution gives positive tests for *Potassium,* Appendix IIIA.
Assay Not less than 99.0% and not more than 100.5% of K_2SO_4.
Lead Not more than 2 mg/kg.
Selenium Not more than 5 mg/kg.

TESTS

Assay Dissolve about 500 mg of sample, accurately weighed, in 200 mL of water, add 1 mL of hydrochloric acid, and heat to boiling. Gradually add, in small portions and while stirring constantly, an excess of hot barium chloride TS (about 8 or 9 mL), and heat the mixture on a steam bath for 1 h. Collect the precipitate on a retentive, ashless filter paper, wash until free from chloride, and place the filter in a suitable tared crucible. Carefully burn away the paper, and ignite at 800° ± 25° to constant weight. The weight of the barium sulfate so obtained, multiplied by 0.7466, indicates its equivalent of K_2SO_4.
Lead Determine as directed in the *APDC Extraction Method* under *Lead Limit Test,* Appendix IIIB.
Selenium Determine as directed in *Method II* under *Selenium Limit Test,* Appendix IIIB, using a 1.2-g sample.

Packaging and Storage Store in well-closed containers.