compare the turbidity, if any, with that produced in a control containing the same quantities of the same reagents used in the test and a quantity of *Standard sulfate solution* equivalent to the quantity of sulfate (SO₄) permitted in the test. Adjust the two solutions with water to the same volume before adding the barium chloride TS.

Method II: Heat the solution to boiling, prepared as directed in the individual test procedure, or the filtrate designated in the procedure, and add 5 mL of barium chloride TS. Then digest the solution on a steam bath for 2 h, and allow to stand overnight. If any precipitate is formed, filter the solution through paper, wash the residue with hot water, and transfer the paper containing the residue to a tared crucible. Char the paper, without burning, and ignite the crucible and its contents to constant weight. Perform a blank determination concurrently with the test specimen determination, and subtract the weight of residue obtained from that obtained in the test specimen determination to obtain the weight of residue attributable to the sulfate content of the specimen.

REAGENT SPECIFICATIONS

Absolute Ether—See Ethyl Ether, Anhydrous.

Absorbent Cotton—Use Purified Cotton (USP monograph).

Acetal, C₆H₁₄O₂-118.2-Use a suitable grade.

Acetaldehyde (Ethanal; Acetic Aldehyde), CH₃CHO—44.05 [75-07-0]—Colorless liquid. Miscible with water and with alcohol. Use ACS reagent grade.

Acetaldehyde Ammonia Trimer Trihydrate (Hexahydro-2,4, 6-trimethyl-1,3,5-triazine trihydrate), $C_6H_{15}N_3 \cdot 3H_2O$ — 183.25 [58052-80-5]—Use a suitable grade with a content of NLT 96.0%.

Acetanilide (*Phenylacetamide; Antifebrin*), $C_8H_9NO-135.16$ [103-84-4]—White, shiny crystals, usually in scales, or a white, crystalline powder. Is stable in air. Freely soluble in alcohol and in chloroform; soluble in boiling water, in ether, and in glycerin; slightly soluble in water.

MELTING RANGE (741): between 114° and 116°. REACTION: Its saturated solution is neutral to litmus. LOSS ON DRYING (731): Dry it over sulfuric acid for 2 hours: it loses not more than 0.5% of its weight. RESIDUE ON IGNITION (Reagent test): not more than 0.05%.

Acetic Acid (6 N Acetic Acid)—Use Acetic Acid (NF monograph) or prepare a suitable dilution of glacial acetic acid in such a way as to obtain a final concentration of acetic acid between 36.0% and 37.0%, by weight.

Acetic Acid, Diluted (1 N Acetic Acid)—Dilute 60.0 mL of glacial acetic acid with water to make 1000 mL. RESIDUE ON EVAPORATION: Evaporate 50 mL on a steam

bath, and dry the residue at 105° for 2 hours: the residue weighs not more than 1 mg (0.002%). CHLORIDE (Reagent test): Five mL shows not more than

0.01 mg of Cl (2 ppm).

SULFATE (Reagent test, *Method I*): Ten mL shows not more than 0.5 mg of SO₄ (50 ppm).

HEAVY METALS (Reagent test): Evaporate 20 mL on a steam bath to dryness. Add to the residue 2 mL of the acid, dilute with water to 25 mL, and add 10 mL of hydrogen sulfide TS: any brown color produced is not darker than that of a control containing 0.04 mg of added Pb and 2 mL of the diluted acetic acid (2 ppm).

Acetic Acid, Glacial, CH₃COOH—60.05 [64-19-7]—Use ACS reagent grade.

Acetic Anhydride (Acetic Oxide; Acetyl Oxide), (CH₃CO)₂O—102.09 [108-24-7]—Use ACS reagent grade.

Acetone (Propanone; Dimethylformaldehyde), CH₃COCH₃— 58.08 [67-64-1]—Use ACS reagent grade.

[NOTE—For UV spectrophotometric determinations, use ACS reagent grade Acetone Suitable for Use in UV Spectrophotometry.]

Acetone, Anhydrous, CH₃COCH₃—58.08—Use ACS reagent grade Acetone.

Acetone, Neutralized—To a suitable quantity of acetone add 2 or 3 drops of phenolphthalein TS and a sufficient amount of 0.02 or 0.01 N sodium hydroxide to produce a faint pink color. Prepare neutralized acetone just prior to use.

Acetonitrile (Methyl Cyanide; Cyanomethane), CH₃CN— 41.05 [75-05-8]—Use ACS reagent grade.

Acetonitrile, Spectrophotometric—Use ACS reagent grade, which meets also the requirements of the following test. SPECTRAL PURITY: Measure in a 1-cm cell between 250 nm and 280 nm, with a suitable spectrophotometer, against air as the blank: its absorbance is not more than 0.01.

Acetophenone (Phenylethanone; Phenyl Methyl Ketone), $CH_3COC_6H_5$ —120.15 [98-86-2]—Liquid. Slightly solublein water, freely soluble in alcohol and in ether.MELTING RANGE (741): between 19° and 20°.REFRACTIVE INDEX (831): about 1.534 at 20°.SPECIFIC GRAVITY (841): about 1.03.

p-Acetotoluidide, C₉H₁₁NO—149.19 [103-89-9]—White to off-white powder.

Assay: Inject an appropriate volume into a gas chromatograph (see *Chromatography* (621)) equipped with a flameionization detector, helium being used as the carrier gas. The following conditions have been found suitable: a 0.25mm × 30-m capillary column coated with a 1-µm layer of phase G2; the injection port temperature is maintained at 230°; the detector temperature is maintained at 300°; and the column temperature is maintained at 130° and programmed to rise 10° per minute to 280°. The area of the C₉H₁₁NO peak is not less than 98.5% of the total peak area.

MELTING RANGE (741): between 145° and 151°.

Acetylacetone (2,4-Pentanedione; Diacetylmethane), C₅H₈O₂—100.12 [123-54-6]—Clear, colorless to slightly yellow, flammable liquid. Soluble in water; miscible with alcohol, with chloroform, with acetone, with ether, and with glacial acetic acid.

Assay: Not less than 98% of $C_5H_8O_2$, a suitable gas chromatograph equipped with a flame-ionization detector being used and helium being used as the carrier gas. The following conditions have been found suitable: a 3-mm × 1.83-m stainless steel column containing 10% phase G43 on support S1A; the injection port and detector temperatures are maintained at 250° and 310°, respectively; the column temperature is programmed to rise 8° per minute, from 50° to 220°.

REFRACTIVE INDEX (831): between 1.4505 and 1.4525, at 20°.

Acetyl Chloride, CH₃COCI—78.50 [75-36-5]—Clear, colorless liquid. Is decomposed by water and by alcohol. Miscible with benzene and with chloroform. Use ACS reagent grade.