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Milk of Bismuth

» Milk of Bismuth contains bismuth hydroxide and Bismuth Subcarbonate in suspension in water, and yields not less than 5.2 percent and not more than 5.8 percent (w/w) of bismuth trioxide (Bi_2O_3).

Bismuth Subnitrate	80 g
Nitric Acid	120 mL
Ammonium Carbonate	10 g
Strong Ammonia Solution,	
Purified Water, each, a sufficient quantity, to make	1000 mL

Mix the Bismuth Subnitrate with 60 mL of Purified Water and 60 mL of the Nitric Acid in a suitable container, and agitate, warming gently until solution is effected. Pour this solution, with constant stirring, into 5000 mL of Purified Water containing 60 mL of the Nitric Acid. Dilute 160 mL of Strong Ammonia Solution with 4300 mL of Purified Water in a glazed or glass vessel of at least 12,000-mL capacity. Dissolve the Ammonium Carbonate in this solution, and then pour the bismuth solution quickly into it with constant stirring. Add sufficient 6 N ammonium hydroxide, if necessary, to render the mixture distinctly alkaline, allow to stand until the precipitate has settled, then pour or siphon off the supernatant, and wash the precipitate twice with Purified Water, by decantation. Transfer the magma to a strainer of close texture, so as to provide continuous washing with Purified Water, the outlet tube being elevated to prevent the surface of the magma from becoming dry. When the washings no longer yield a pink color with phenolphthalein TS, drain the moist preparation, transfer to a graduated vessel, add sufficient Purified Water to make 1000 mL, and mix.

[NOTE—This method of preparation may be varied, provided the product meets the following requirements.]

Packaging and storage—Preserve in tight containers, and protect from freezing.

Identification—

A: It responds to the tests for [Bismuth \(191\)](#) and for [Carbonate \(191\)](#).

B: Add 1 mL of 3 N hydrochloric acid to 1 mL of Milk of Bismuth: a clear solution is produced. Pour the clear solution into 10 volumes of water: a white precipitate is formed.

MICROBIAL ENUMERATION TESTS (61) and TESTS FOR SPECIFIED MICROORGANISMS (62).—The total bacterial count does not exceed 100 cfu per mL and the test for *Escherichia coli* is negative.

Water-soluble substances—Boil 10 mL with 90 mL of water for 10 minutes, cool, add water to make the total volume 100 mL, mix, and filter. Evaporate 50 mL of the filtrate to dryness, and ignite it gently: the weight of the residue does not exceed 5 mg (0.1%).

Change to read:

▲[ARSENIC \(211\), Procedures, Procedure 1](#)▲ (CN 1-Jun-2023) —Evaporate 3.75 mL on a steam bath to dryness, add 2 mL of sulfuric acid, and heat until copious fumes of sulfur trioxide are evolved. The limit is 0.8 ppm.

Lead—To 5 mL add warm nitric acid, dropwise, until it is just dissolved, and pour the solution into 50 mL of water: a white precipitate may form. Filter, if necessary, evaporate the filtrate on a steam bath to 15 mL, again filter, and to 10 mL of the filtrate add an equal volume of 2 N sulfuric acid: no precipitate is formed.

Limit of alkalis and alkaline earths—Dissolve 2.0 mL in 5 mL of hydrochloric acid, dilute with water to 100 mL, add hydrogen sulfide to precipitate the bismuth completely, and filter. To 50 mL of the clear filtrate add 5 drops of sulfuric acid, evaporate to dryness, and ignite: the weight of the residue does not exceed 3 mg (0.3%).

Assay—Evaporate an accurately weighed quantity of Milk of Bismuth to dryness, and ignite the residue to constant weight. From the weight of the Bi_2O_3 so obtained determine the percentage in the assay specimen.

Topic/Question	Contact	Expert Committee
MILK OF BISMUTH	Brian Serumaga Science Program Manager	CMP2020 Compounding 2020
REFERENCE STANDARD SUPPORT	RS Technical Services RSTECH@usp.org	CMP2020 Compounding 2020

Chromatographic Database Information: [Chromatographic Database](#)

Most Recently Appeared In:

Pharmacopeial Forum: Volume No. Information currently unavailable

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