

Mineral Products Laboratory

June 17, 1953

4027 - LITHOPONE

Special Report: Soluble Sulfates in Permolith W-320

Purpose: To compare the soluble sulfate content of current lots of Permolith W-320 with that of previous production.

Discussion: The formation of a sodium sulfate efflorescence on the surface of latex paints under certain unfavorable drying conditions is a recognized and still occasionally troublesome phenomenon. Consequently, any pigments, or other raw materials, entering into the manufacture of latex paints must be as free as possible of sodium sulfate or salts that might react to form it.

For purposes of the record and general surveillance, an examination was made of the soluble sulfate content of several previous and current lots of Permolith W-320.

Procedure: An intensive leaching was made to insure complete extraction of soluble salts. 20 grams of lithopone were boiled 5 minutes with 150 ml. of distilled water, filtered and washed with an additional 150 ml. of hot water. The pigment was then flushed from the paper and the leaching repeated. The combined filtrate was then concentrated to approximately 175-200 ml. before the customary precipitation of the sulfate as barium sulfate.

Results:

Permolith W-320

<u>Lot No.</u>	<u>AURL No.</u>	<u>%SO₄</u>	<u>% as BaSO₄</u> [*]
W 3411 C (1948)	10068	0.085	0.15
W 5132A (1952)	2112	0.064	0.11
W 5618 (1953)	—	0.066	0.12
W 5621 (1953)	—	0.060	0.11
W 5624 (1953)	—	0.081	0.14

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*It should be understood that the sulfate is not necessarily present as the sodium salt or even capable of forming it, but this is logical in view of the treatment used in W-320.

Conclusion: The total soluble sulfate content of current production of Permolith W-320 is being maintained at the level of past practice.

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