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Standard Specification for Powdered Hand Cleaner (Soap with Borax)¹

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1. Scope

1.1 This specification covers a powdered hand cleaner for use in washroom dispensers. This cleaner is suitable for removing heavy occupational oils such as oils and greases. Two types of hand cleaners are covered:

1.1.1 *Type A*—Soap and borax without lanolin.

1.1.2 *Type B*—Soap and borax with lanolin.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

2. Referenced Documents

2.1 *ASTM Standards*:

D 460 Test Methods for Sampling and Chemical Analysis of Soaps and Soap Products²

D 502 Test Method for Particle Size of Soaps and Other Detergents²

3. Chemical Composition and Fineness Requirement

3.1 The hand cleaner, as received, shall conform to the following requirements:

	Type A		Type B	
	min	max	min	max
Anhydrous soda soap, %	23.0	27.0	23.0	39.0
Matter insoluble in water, %	...	0.2	...	0.3
Borax (calculated as Na ₂ B ₄ O ₇ ·10H ₂ O), % ^A	72.0	77.0	57.0	75.0
Anhydrous lanolin, % ^B	...	...	1.0 ^C	...
pH value, 1.0 % solution	8.7	9.7	8.7	9.7
Weight (see Note) % of hand cleaner retained on:				
No. 12 U.S. Standard Sieve	nil		nil	
No. 40 U.S. Standard Sieve	...	15.0	...	15.0
No. 100 U.S. Standard Sieve	45.0	80.0	45.0	80.0

^A (Five mol borax (Na₂B₄O₇·5H₂O) is not excluded from the composition.)

^B USP grade lanolin or lanolin derivative.

^C Based on anhydrous soap.

NOTE 1—The term “weight” is used in this method because of

established trade usage in place of the technically correct term “mass.”

3.2 *Fineness of Borax in Hand Cleaner (Type B only)*—The borax in that portion of the hand cleaner passing through a No. 30 U.S. Sieve and retained on a No. 40 U.S. Sieve shall not exceed 1.0 g borax in 100 g of total product as received. The borax in that part of the product passing through a No. 40 U.S. Sieve and retained on a No. 200 U.S. Sieve shall meet or exceed 75 g in 100 g of total product as received.

4. Basis of Purchase

4.1 The hand cleaner shall be purchased on the basis of net weight.

5. General Requirements

5.1 The hand cleaner shall be a free-flowing powder of uniform composition and color. It shall be a mixture of a high-grade thoroughly saponified soda soap and borax. The hand cleaner shall be uncolored or tinted in pastel shades. It shall be mildly perfumed or unperfumed, as specified. It shall lather and rinse freely at room temperature 20 ± 2°C (68 ± 3.6°F) in water that has a hardness of 300 ± 20 ppm as calcium carbonate. It shall not cake, change color, or develop an odor when stored for 6 months within the temperature range from 10 to 37.8°C (50 to 100°F).

5.2 Prior to production, the supplier shall furnish the purchaser with a sample of hand cleaner upon which the supplier and purchaser shall agree as meeting the general requirements in 5.1. Subsequent shipments shall be identical to the above general requirement sample.

6. Methods of Sampling and Analysis

6.1 The hand cleaner shall be sampled and analyzed in accordance with Test Methods D 460.

6.2 Make the sieve analysis in accordance with Test Method D 502.

6.3 The purchaser reserves the right to use any additional available information to ascertain whether the material conforms to this specification.

7. Keywords

7.1 borax; powdered hand cleaner; soap

¹ This specification is under the jurisdiction of ASTM Committee D-12 on Soaps and Other Detergents and is the direct responsibility of Subcommittee D12.22 on Specifications for Soaps and Synthetic Detergents.

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² *Annual Book of ASTM Standards*, Vol 15.04.