



Designation: D 3047 - 81

H-13-15

AMERICAN SOCIETY FOR TESTING AND MATERIALS

1916 Race St., Philadelphia, Pa. 19103

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Standard Specification for POWDERED HAND CLEANER (SOAP WITH VEGETABLE SCRUBBER)¹

This standard is issued under the fixed designation D 3047; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval.

1. Scope

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

1.1.1 *Type A*—Soap and vegetable scrubber without lanolin.

1.1.2 *Type B*—Soap and vegetable scrubber with lanolin.

2. Applicable Documents

2.1 *ASTM Standards:*

D 460 Sampling and Chemical Analysis of Soaps and Soap Products²

D 502 Test for Particle Size of Soaps and Other Detergents²

3. General Requirements

3.1 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 vegetable abrasive or scrubber. The vegetable scrubber shall consist of degerminated or non-degerminated corn meal or combinations of corn meal, corn-cob meal, wood flour, and rice hulls. If non-degerminated corn meal is used, an organic oxidation inhibitor (see table and footnote in Section 4) in the amount of 0.01 % shall be uniformly dispersed in the scrubber. The hand cleaner shall be uncolored or lightly tinted. It shall be mildly perfumed or unperfumed, as specified. It shall lather and rinse freely at room temperature $20 \pm 2^\circ\text{C}$ ($68 \pm 3.6^\circ\text{F}$) in water that has a hardness of 300 ± 20 ppm as calcium carbonate. The hand cleaner shall not cake, change

color, or develop an odor when stored for 6 months within a temperature range from 10 to 37.8°C (50 to 100°F).

3.2 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 given in 3.1. Subsequent shipments shall be identical to the above general requirement sample.

4. Chemical Composition and Fineness Requirements

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

	Type A		Type B	
	min	max	min	max
Matter volatile at 105°C , %	...	12.0	...	12.0
Alkaline salts (calculated as sodium carbonate), %	...	7.7	...	7.7
Free alkali (calculated as sodium hydroxide), %	...	0.1	...	0.1
Free fatty acid (calculated as oleic acid), %	...	2.0	...	2.0
Matter insoluble in water, % ^a	48.0	58.0	45.0	55.0
Anhydrous soda soap, %	24.0	...	24.0	...
Anhydrous lanolin, % ^b	...	...	1.0 ^d	...
Organic oxidation inhibitor, % ^c	0.01	...	0.01	...
pH of a 1.0 % solution at 25°C	9.0	10.5	9.0	10.5
Weight (NOTE 1) % of hand cleaner retained on:				

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.

Current edition approved April 24, 1981. Published June 1981. Originally published as D 3047 - 72 T. Last previous edition D 3047 - 80.

² Annual Book of ASTM Standards, Part 30.