

# Solids and Ash Analysis for Cosmetics Manufacturers



## Introduction

The consistent production of cosmetics is important to ensure the quality and safety of products and their raw-materials, and with the growing variety of products, finding equally consistent testing solutions can be difficult. Due to the rapid growth that the cosmetic industry has exhibited globally, accurate, low cost and rapid technology to control cosmetic quality and production are a priority. Shampoos, lotions, soaps, detergents, polishes, and other consumer or industrial products require extremely tight formulation specifications, which is why having quality control equipment that is fast while still maintaining accuracy can help improve formulations, increasing yields and overall profits. The testing of Solids and Ash content may be some of the simpler tests done in the lab, but the data from these analyses can have some of the largest impact on bottom line and product quality.

## Key Benefits

- The SMART 6 can test any product, liquid or powder, water or solvent based, faster than any other solids analyzer
- AOAC and ASTM approved equipment
- SMART 6 is the only system using the patented iPower® dual frequency heating technology
- Title 21 CFR Part 11 compliant, Full LIMS capabilities, integrated training videos available
- Easy method transfer for better global consistency

## SMART 6

The SMART 6 is the newest moisture/solids analyzer from CEM Corporation. Improving upon the SMART Turbo, which is used by cosmetics companies around the world, the SMART 6 now uses the proprietary new iPower technology to heat samples faster and more accurately than any other analyzer available. This dual-frequency heating technology allows the system to analyze any product, regardless of whether it is liquid, powder, cream, gel, or in any other form. Most analyses are complete in less than 3 minutes, with results that will compare to the precision previously only obtainable by ASTM oven methods, which can take hours to perform. With a touchscreen interface, built-in training videos, and full LIMS integration potential, the SMART 6 is the most advanced Solids analyzer on the market. This means data can be sent directly to the production floor to clear batches for packaging more quickly and with more confidence. And with the increased accuracy the SMART 6 is capable of, more expensive additives such as surfactants and modifiers can be used more sparingly and water content increased, while still maintaining the products formulation specifications and not worrying about shelf life and other safety concerns.

### Solids Data

Product	Air Oven Results	SMART Results	SMART St Dev
Sodium Laureth Sulfate	76.00	76.07	0.05
Lotion	37.18	37.28	0.07
Conditioner	38.10	38.07	0.16
Quarternized Hydrolyzed Corn Starch	23.10	23.17	0.07
Detergent	60.10	60.09	0.05
Ethyl Acetate	75.69	75.63	0.08

## Phoenix Muffle Furnace

Since the Phoenix system's introduction to the market, it has revolutionized muffle furnace analysis by supplying users with a more rapid, safer technique for ashing samples. Using microwave technology to quickly and efficiently generate heat, the Phoenix can reach optimal ashing temperature in less than 30 minutes, and ash samples in 10 minutes, when they typically take 1-2 hours in other muffle furnaces. With programmable methods that can set ramps and dwell times, the only steps the user has to take is weighing of the sample and placing it in the muffle furnace. The Phoenix will ash the sample, and calculate the results, ensuring the right result every time. Fully ASTM and USP approved, the Phoenix is the premium Ashing analyzer available.

### Ash Data

Product	Phoenix Results	Phoenix St Dev	Phoenix Time
Gelatin	0.19	0.04	120 m
Anhydrous Lotion	10.58	0.09	60 m
Hydroxypropylcellulose	0.19	0.02	15 m

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